AA-2 CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.	MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-27S20	RM-Y135	US	SCC-J71A-A	KV-32S20	RM-Y135	US	SCC-J71C-A
KV-27S20	RM-Y135	Canadian	SCC-J73A-A	KV-32S20	RM-Y135	Canadian	SCC-J73B-A
KV-27S25	RM-Y136	US	SCC-J71B-A	KV-32S25	RM-Y136	US	SCC-J71D-A
KV-27S25	RM-Y136	Canadian	SCC-J73F-A	KV-32S25	RM-Y136	Canadian	SCC-J73C-A
KV-29RS20	RM-Y135	E	SCC-J74A-A	KV-34RS20C	RM-Y135	E	SCC-J74G-A
KV-29RS20C	RM-Y135	E	SCC-J74E-A				
KV-29RS25	RM-Y136	E	SCC-J74B-A				
KV-29RS25C	RM-Y136	W	SCC-J74F-A				
KV-29SD1	RM-Y135	E	SCC-J74C-A				
KV-29PS1	RM-Y135	E	SCC-J74D-A				

Note :

1. Adjustment Manual for this model is separately published.

	Adjustment Manual
Part No.	9-965-811-01
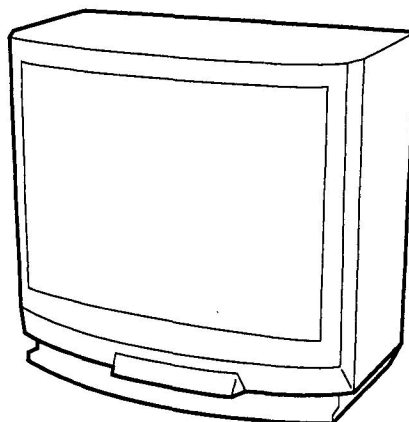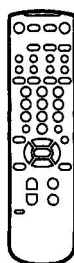
TRINITRON® COLOR TV
SONY®

Specifications

Model number	KV-27S20 / KV-29PS1 / KV-29RS20 / KV-29RS20C / KV-29SD1		KV-32S20 / KV-34RS20C	Notes
Television system	American TV standard			
Channel coverage	VHF: 2-13 / UHF: 14-69 / CATV: 1-125			
Antenna	75-ohm external antenna terminal for VHF/UHF			
Picture tube	Hi Black Trinitron® tube			
Screen size (in.)	27		32	Measured diagonally
Number of inputs/outputs				
Video	1		1	1 Vp-p, 75 ohms unbalanced, sync negative
S video	0		0	Y: 1 Vp-p, 75 ohms unbalanced, sync negative C: 0.286 Vp-p (Burst signal), 75 ohms
Audio	1		1	500 mVrms (100% modulation), Impedance: 47 kilohms
Monitor out	0		0	1 Vp-p, 75 ohms unbalanced, sync negative
Audio out	1		1	More than 408 mVrms at the maximum volume setting (variable) More than 408 mVrms (fix) Impedance: 5 kilohms
Speaker output (W)	5W × 2		5W × 2	
Power requirements	a KV-27S20/29PS1/29RS20/29SD1 b KV-29RS20C		a KV-32S20 b KV-34RS20C	a= 120V, 60 Hz b= 220 V, 50/60 Hz
Power consumption (W)				
When in use	160 W (Max.)		180 W (Max.)	
In standby	9 W		9 W	
Dimensions (W/H/D) (mm) (in.)	660.4 × 602.5 × 521.2 mm (26 × 23 3/4 × 20 5/8 in.)		781 × 712.1 × 582.5 mm (30 3/4 × 28 1/8 × 23 in.)	
Mass (kg) (lbs)	40.6 kg (89 lbs 8 oz)		64.3 kg (141 lbs 12 oz)	

Supplied accessories
Remote commander RM-Y135 (1)
Size AA (R6) battery (2)

Optional accessories
Connecting cables VMC-810S/820S, VMC-720M, YC-15V/30V, RK-74A
TV stand SU-27A *(KV-27S20/ /29PS1/29RS20/29RS20C/ 29SD1/ only)*
TV stand SU-32A *(KV-32S20/34RS20C only)*
U/V mixer EAC-66

Design and specifications are subject to change without notice.

(●)® SRS (SOUND RETRIEVAL SYSTEM)
The (●) SRS (SOUND RETRIEVAL SYSTEM) is manufactured by Sony Corporation under license from SRS Labs Inc. It is covered by U.S. Patent No. 4,748,669. Other U.S. and foreign patents pendeing.

The word 'SRS' and the SRS symbol (●) are registered trademarks of the SRS Labs, Inc.

Specifications

	Model number KV-27S25				KV-29RS25	KV-29RS25C
Television system	American TV standard					
Channel coverage	VHF: 2-13 / UHF: 14-69 / CATV: 1-125					
Antenna	75-ohm external antenna terminal for VHF/UHF					
Picture tube	Hi Black Trinitron® tube					
Screen size (in.)	27-inch picture measured diagonally					
Power requirements	120 V, 60 Hz	120 V, 60 Hz	120 V, 60 Hz	120 V, 60 Hz	120 V, 60 Hz	220 V, 50/60Hz
Number of inputs/ outputs						
Video[1]	2				2	2
S video[2]	1				1	1
Audio[3]	2				2	2
Audio out[4]	1				1	1
Monitor out[1]	–				–	–
TV out[1]	–				–	–
S-Link	–				–	–
Speaker output (W)	5W × 2				5W × 2	5W × 2
Power consumption (W)						
When in use (Max.)	165W				165W	165W
In standby	9W				9W	9W
Dimensions (W/H/D) (mm)	660.4 × 602.5 × 521.2 mm				660.4 × 602.5 × 521.2 mm	660.4 × 602.5 × 521.2 mm
(in.)	26 × 23³/₄ × 20⁵/₈ in.				26 × 23³/₄ × 20⁵/₈ in.	26 × 23³/₄ × 20⁵/₈ in.
Mass (kg)	40.6 kg				40.6 kg	40.6 kg
(lbs)	89 lbs 8 oz				89 lbs 8 oz	89 lbs 8 oz

[1] 1 Vp-p, 75 ohms unbalanced, sync negative

[2] Y: 1 Vp-p, 75 ohms unbalanced, sync negative
C: 0.286 Vp-p (Burst signal), 75 ohms

[3] 500 mVrms (100% modulation), Impedance: 47 kilohms

[4] More than 408 mVrms at the maximum volume setting (variable)
More than 408 mVrms (fix)
Impedance: 5 kilohms

38 | Additional Information

	KV-32S25
Television system	American TV standard
Channel coverage	VHF: 2-13 / UHF: 14-69 / CATV: 1-125
Antenna	75-ohm external antenna terminal for VHF/UHF
Picture tube	Hi Black Trinitron® tube
Screen size (in.)	32-inch picture measured diagonally
Power requirements	120 V, 60 Hz
Number of inputs/ outputs	
Video[1]	2
S video[2]	1
Audio[3]	2
Audio out[4]	1
Monitor out[1]	–
TV out[1]	–
S-Link	–
Speaker output (W)	5W × 2
Power consumption (W) When in use (Max.) In standby	185W 9W
Dimensions (W/H/D) (mm) (in.)	781 × 712.1 × 582.5 mm 30³/₄ × 28¹/₈ × 23 in.
Mass (kg) (lbs)	64.3 kg 141 lbs 12 oz

[1] 1 Vp-p, 75 ohms unbalanced, sync negative

[2] Y: 1 Vp-p, 75 ohms unbalanced, sync negative
   C: 0.286 Vp-p (Burst signal), 75 ohms

[3] 500 mVrms (100% modulation), Impedance: 47 kilohms

[4] More than 408 mVrms at the maximum volume setting (variable)
   More than 408 mVrms (fix)
   Impedance: 5 kilohms

Supplied accessories

Remote commander RM-Y136 (1) (*KV-27S25/ /29RS25/ 29RS25C/32S25 only*)

Size AA (R6) battery (2)

Optional accessories

Connecting cables VMC-810S/820S, VMC-720M, YC-15V/30V, RK-74A
TV Stand SU-27A (*KV-27S25/ /29RS25/ 29RS25C/ only*)
TV Stand SU-32A (*KV-32S25 only*)

U/V mixer EAC-66

Design and specifications are subject to change without notice.

Feature packages

Model number	One-tuner PIP	Two-tuner PIP	S-Link/LightSensor/ SRS/Clock/Timer	Tilt correction
KV-27S25	●			
KV-29RS25	●			
KV-29RS25C	●			
KV-32S25	●			

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SAFETY CHECK-OUT

(US model only)

After correcting the original service problem, perfom the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recom mend their replacement.
6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any). Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate;be suspicious of your HV meter if sets always have low HV.
9. Check the antenna temminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to usc these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground;the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60-100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)
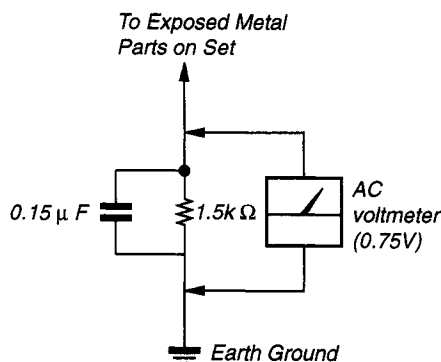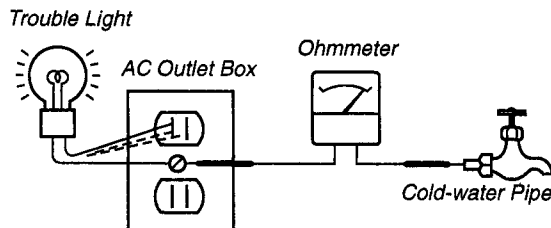

Fig. A. Using an AC voltmeter to check AC leakage.

Fig. B. Checking for earth ground.

TABLE OF CONTENTS

(CAUTION)
SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

WARNING!!
AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING!!
COMPONENTS IDENTIFIED BY SHADING AND MARK ! ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL FOR SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

(ATTENTION)
APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION!!
AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÁSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE. LE CHÁSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RA CCORDÉ À L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!
LES COMPOSANTS IDENTIFIÈS PAR UNE TRAME ET PAR UNE MARQUE ! SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIECES SONT D'UNE IMPOR TANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIES D ANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT EST SUSPECTÉ.

The operation instruction mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remein as in the manual.(Part no: 3-810-852-21)
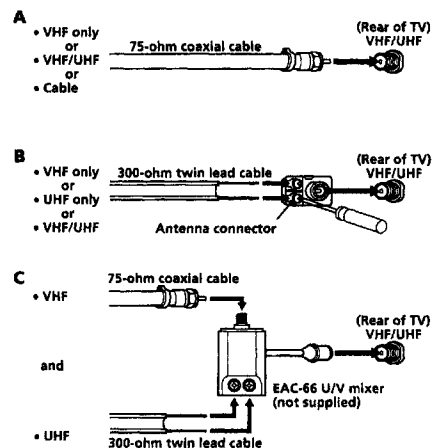
Getting Started

Step 1: Hookup

Although you can use either an indoor or outdoor antenna with your TV, we recommend that you connect an outdoor antenna or a cable TV system to get better picture quality.

How to connect different types of cables

The illustrations below show examples of connecting cables to the TV directly.

A
- VHF only
  or
- VHF/UHF   75-ohm coaxial cable   (Rear of TV) VHF/UHF
  or
- Cable

B
- VHF only
  or   300-ohm twin lead cable   (Rear of TV) VHF/UHF
- UHF only
  or
- VHF/UHF   Antenna connector

C
- VHF   75-ohm coaxial cable
                                                  (Rear of TV) VHF/UHF
and
                  EAC-66 U/V mixer
                  (not supplied)
- UHF   300-ohm twin lead cable

Notes
- Most VHF/UHF combination antennas have a signal splitter. Remove the splitter before attaching the appropriate connector.
- If you use the U/V mixer, snow and noise may appear in the picture when viewing cable TV channels over 37.

Connecting an antenna/cable TV system without a VCR

If your cable company requires you to connect a cable box, make the connection as follows:

Cable or antenna

(Rear of TV) VHF/UHF
Cable

Cable box

(Rear of TV) VHF/UHF
Cable
IN   OUT
Cable box
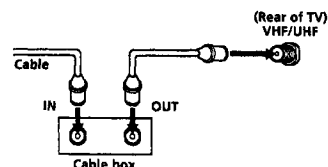
Connecting an antenna/cable TV system with a VCR

To connect your VCR to the TV, first check the model number of your TV and select the corresponding connection. For details on connection, see the instruction manual of your VCR.

Before making the connection, disconnect the AC power cords of the equipment to be connected.

Without a cable box
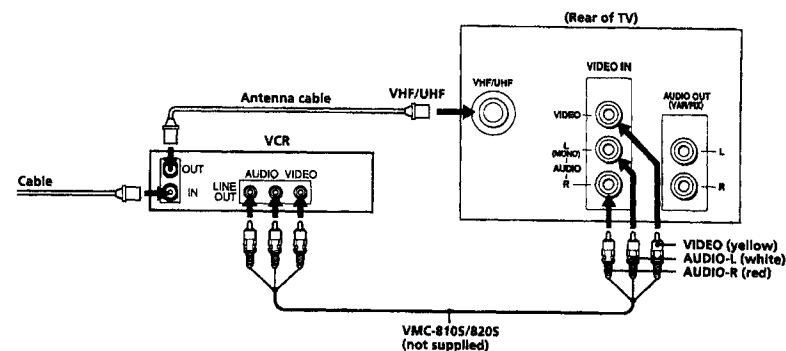
Cable
Antenna cable   VHF/UHF
VCR
OUT
LINE
IN OUT   AUDIO VIDEO

(Rear of TV)
VIDEO IN
VHF/UHF
VIDEO
L (MONO)
AUDIO
R
AUDIO OUT (VAR/FIX)
L
R

VIDEO (yellow)
AUDIO-L (white)
AUDIO-R (red)

VMC-810S/820S
(not supplied)

After making these connections, you will be able to do the following:
- View the playback of video tapes
- Record one TV program while viewing another program

Note
- To connect a monaural VCR, connect the audio output of the VCR to AUDIO-L (mono) of VIDEO IN on the TV.

To an S video equipped VCR without a cable box

■ *KV-27V20/29V20M only*

If your VCR has an S video output jack, make the following connections.
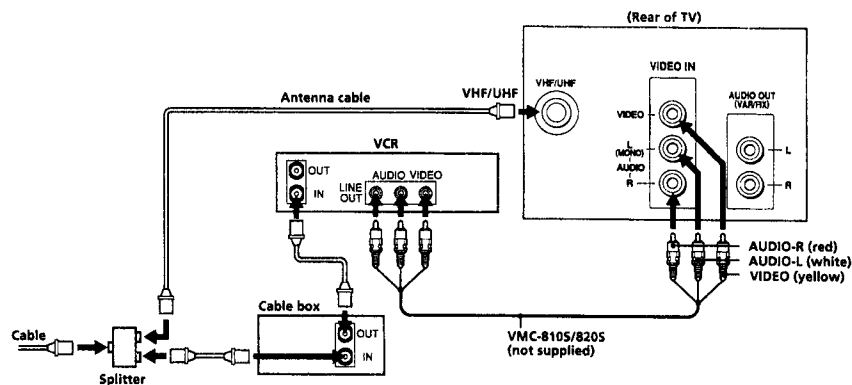
Cable
Antenna cable
VCR
OUT
LINE
IN OUT   AUDIO VIDEO S VIDEO
VHF/UHF

(Rear of TV)
IN
VIDEO 1
S VIDEO
VIDEO
L (MONO)
AUDIO
R
VHF/UHF
OUT
MONITOR AUDIO (VAR/FIX)

YC-15V/30V
(not supplied)

S VIDEO
AUDIO-R (red)
AUDIO-L (white)

RK-74A
(not supplied)

With a cable box

(Rear of TV)

VIDEO IN

AUDIO OUT (VAR/FIX)

Antenna cable   VHF/UHF

VCR

AUDIO-R (red)
AUDIO-L (white)
VIDEO (yellow)

VMC-810S/820S
(not supplied)

Cable box

Cable

Splitter

Note
• To connect a monaural VCR, connect the audio output of the VCR to AUDIO-L (mono) of VIDEO IN on the TV.

To an S video equipped VCR with a cable box

■ *KV-27V20/29V20M only*

(Rear of TV)

Antenna cable

VCR

VHF/UHF

YC-15V/30V
(not supplied)

S VIDEO
AUDIO-R (red)
AUDIO-L (white)

Cable box

Cable

Splitter

RK-74A
(not supplied)
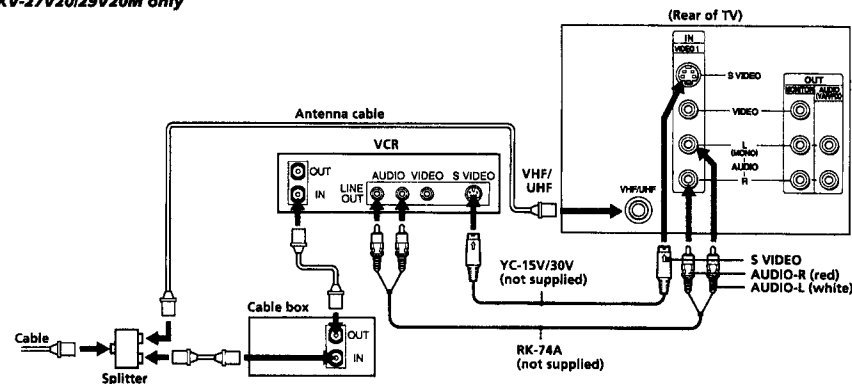
Note
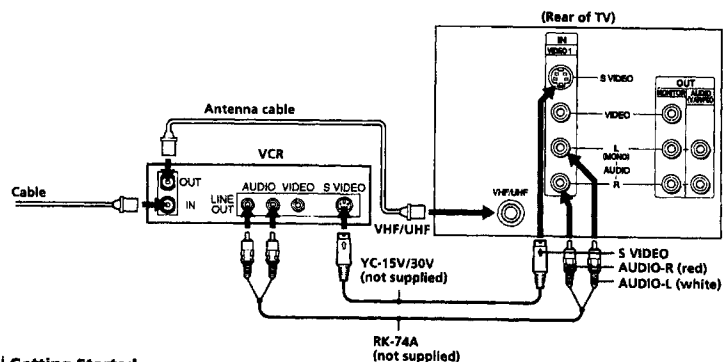• Video signals are composed of Y (luminance) and C (chroma) signals. The S connection sends the two signals separately preventing degradation, and gives better picture quality compared to conventional connections.

Connecting a DBS receiver

For connection details, see the instruction manual of the DBS (Digital Broadcasting Satellites) receiver.

To a TV

Cable or cable box   (Rear of TV)

VIDEO IN

AUDIO OUT (VAR/FIX)

VHF/UHF

DBS receiver

Antenna

Satellite antenna input

VIDEO (yellow)
AUDIO-L (white)
AUDIO-R (red)

VMC-810S/820S (not supplied)
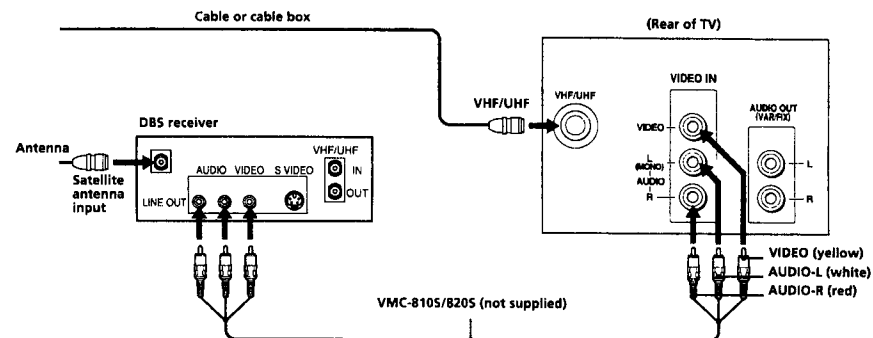
Note
• You can use the S VIDEO jack or the composite video jack for the video connection.

To a TV and VCR

Cable or cable box

DBS receiver

Antenna

Satellite antenna input

(Rear of TV)

VIDEO IN

AUDIO OUT (VAR/FIX)

VCR

VHF/UHF IN

VHF/UHF OUT

F-type cable (not supplied)

VIDEO (yellow)
AUDIO-L (white)
AUDIO-R (red)

VMC-810S/820S (not supplied)
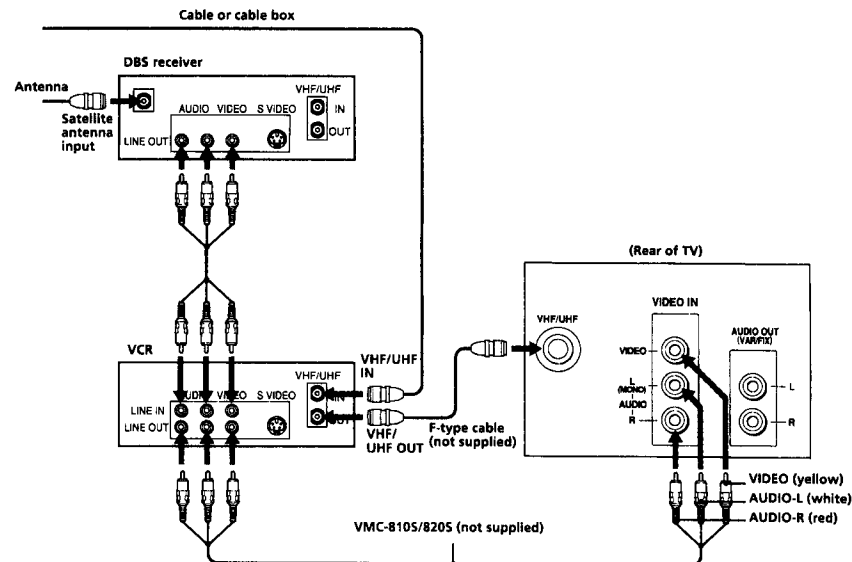
Connecting a camcorder

■ *KV-27V20/29V20M only*

This connection is convenient for viewing a camcorder picture.

(Front of TV)

VIDEO 2 INPUT
VIDEO L(MONO)-AUDIO-R

VIDEO (yellow)
AUDIO-R (red)
AUDIO-L (white)

Video and audio outputs

VMC-810S/820S (not supplied)

Note
• To connect a monaural camcorder, connect the audio output of the camcorder to AUDIO-L (mono) of VIDEO 2 INPUT on the TV.

Connecting an audio system

When connecting audio equipment, see pages **21-22** for more information.

(Rear of TV)

VHF/UHF
VIDEO IN
VIDEO
L (MONO) AUDIO R
AUDIO OUT (VAR/FIX)

AUDIO OUT-L (white)

AUDIO OUT-R (red)

RK-74A (not supplied)

Set the amplifier's function to line input.
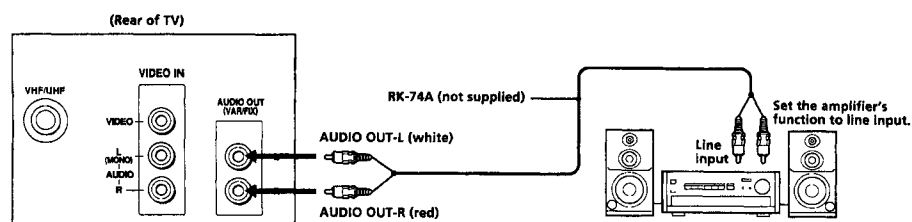
Line input

Connecting two VCRs for tape editing using MONITOR OUT

■ *KV-27V20/29V20M only*

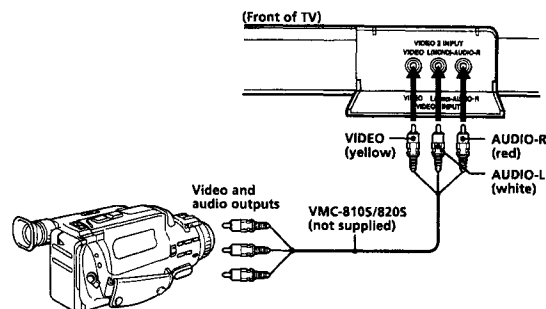MONITOR OUT allows you to record a program that is on the screen.

(Rear of TV)

IN
VIDEO 1
S VIDEO
VIDEO
L (MONO) AUDIO R
VHF/UHF
OUT
MONITOR AUDIO

VCR (for playback)
AUDIO VIDEO
LINE OUT
OUT
IN

AUDIO-R (red)
AUDIO-L (white)
VIDEO (yellow)

VCR (for recording)
AUDIO VIDEO
LINE IN
OUT
IN

VMC-810S/820S (not supplied)

VMC-810S/820S (not supplied)
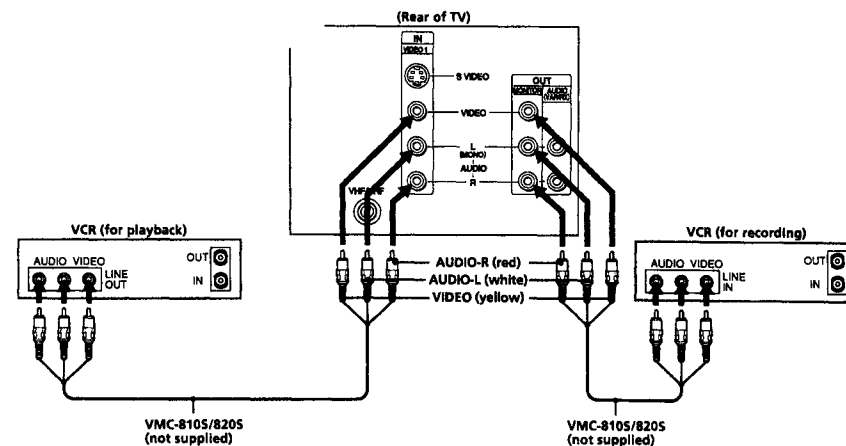
The above type of connection should only be used when you connect from the line input of one VCR, and from the line output of a second VCR.

Notes
• Do not change the input signal while editing through MONITOR OUT, or the output signal will also change.
• You can use the S video jack to connect a VCR for playback and the composite video jack to connect a VCR for recording.

• When connecting a single VCR to the TV, do not connect the MONITOR OUT jacks at the rear of the TV to the VCR's line input, while at the same time connecting from the TV's VIDEO IN jacks to the VCR's line output, as shown below.

(Rear of TV)
VIDEO IN
MONITOR OUT
VCR
LINE
IN OUT
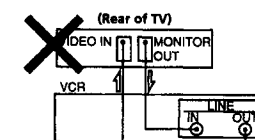
Step 2: Setting up the remote commander

Inserting batteries

Insert two size AA (R6) batteries (supplied) by matching the + and – on the battery to the diagram inside the battery compartment.
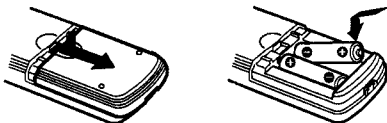
Notes
- Under normal conditions, batteries will last up to six months. If the remote commander does not operate properly or the indicators of the buttons on the remote commander do not light up, the batteries may be worn out. When replacing batteries, replace both of them with new ones.
- Do not mix old batteries with new ones or mix different types of batteries together.
- If the electrolyte inside the battery should leak, wipe the contaminated area of the battery compartment with a cloth and replace the old batteries with new ones. To prevent the electrolyte from leaking, remove the batteries when you don't plan to use the remote commander for a long period of time.
- Do not handle the remote commander roughly. Do not drop it, step on it or let it get wet.
- Do not place the remote commander in direct sunlight, near a heater, or where the humidity is high.

Getting to know buttons on the remote commander

Names of buttons on the remote commander are indicated in different colors to represent the available functions.
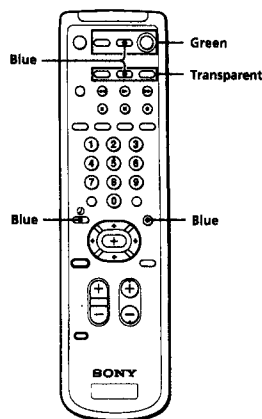
Button color

Transparent (light up)	TV/VCR/DBS/Cable box function buttons. Press the appropriate function button first to change the remote commander's function.
Green	Buttons relevant to power operations.

Label color

White	TV/VCR/DBS/Cable box operation buttons.
Blue	DBS operation buttons.

Green
Blue
Transparent
Blue
Blue

SONY

Step 3: Setting up the TV automatically (AUTO SET UP)

You can set up your TV easily by using the AUTO SET UP feature. It presets all the receivable channels.
To set up the TV manually, see "Setting cable TV on or off" (page **14**) and "Presetting channels"(page **14**).

(Front of TV)

SET UP TV/VIDEO   – VOLUME +   – CHANNEL +   POWER   O STAND BY/STEREO
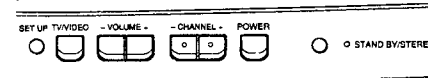
Before you start using AUTO SET UP, be sure to connect the antenna or cable to the TV (see page 5).

1 Press POWER to turn on the TV.

The AUTO SET UP screen appears.

POWER

ENGLISH	[CH +]
ESPAÑOL	[CH –]
AUTO SET UP	[VOL +]
DEMO	[TV/VIDEO]
First please connect the antenna	
Press [SET UP] to exit.	
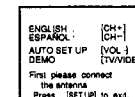
Note
- The AUTO SET UP screen appears whenever you press the POWER button if you do not execute AUTO PROGRAM.

2 *(Except Canadian models)*
Press CHANNEL + to select English screens or CHANNEL – to select Spanish screens.
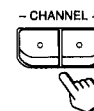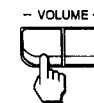
– CHANNEL +

3 Press VOLUME –.

– VOLUME +

AUTO PROGRAM

"AUTO PROGRAM" appears on the screen and the TV starts scanning and presetting channels automatically. When all the receivable channels are stored, "AUTO PROGRAM" disappears and the lowest numbered channel is displayed. If the TV receives cable TV channels, CABLE is set to ON automatically.

To perform AUTO SET UP again
1 Press SET UP on the TV.
2 *(Except Canadian models)*
Press CHANNEL + or CHANNEL – to select the language.
3 Press VOLUME –.
The picture and sound settings will be set to the factory preset conditions.
4 Press CHANNEL +.
"AUTO PROGRAM" appears on the screen and the TV starts scanning and presetting channels.
5 Press CHANNEL – to exit the AUTO SET UP menu.

To exit AUTO PROGRAM
Press any button.

Note
- If the TV is set to a video input, you cannot execute AUTO SET UP. Press TV (black button) so that a channel number appears.

To browse the main functions (DEMO)
Press TV/VIDEO on the TV in step 3. The functions and menus are displayed one by one.

To exit DEMO
Press any button.

Erasing or adding channels

After AUTO SET UP, you can erase unnecessary channels or add the channels you want. Preset channels during the day rather than late at night, when some channels may not be broadcasting.

TV (FUNCTION)

0 – 9 buttons

ENTER

MENU

CH +/-
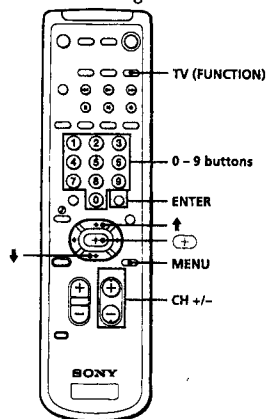
1 Press TV (FUNCTION).

— FUNCTION —

TV
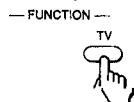
2 Press MENU.
The main menu appears.

MENU

3 Press ↑ or ↓ to select 🗄, and press ⊕.
The SET UP menu appears.
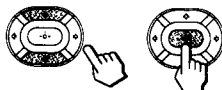
4 Press ↑ or ↓ to select CHANNEL ERASE/ADD, and press ⊕.
The CHANNEL ERASE/ADD menu appears.

---
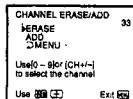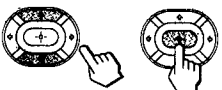
5 Erase and/or add channels:

To erase an unwanted channel
(1) Make sure the cursor (►) is beside ERASE.
(2) Press CH +/- or the 0 – 9 buttons to select the channel you want to erase, and press ENTER.

Selected channel number

CH
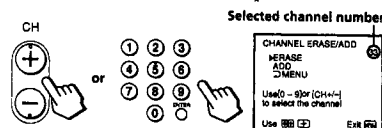
(3) Press ⊕.
The "–" indication appears beside the channel number, showing that the channel is erased from the preset memory.

To add a channel that you want
(1) Press ↑ or ↓ to move the cursor (►) to ADD.
(2) Press the 0 – 9 buttons to select the channel you want to add, and press ENTER.

Selected channel number
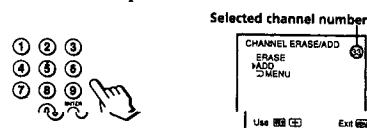
(3) Press ⊕.
The "+" indication appears beside the channel number, showing that the channel is added to the preset memory.

6 To erase and/or add other channels, repeat step 5.

7 Press MENU to return to the original screen.

MENU

Note
• If you erase or add a VHF or UHF channel, the cable TV channel with the same number is also erased or added, and vice versa.

Setting cable TV on or off

If you have connected the TV to a cable TV system, set CABLE to ON (the factory setting). If not, set CABLE to OFF. You do not have to do this procedure if you execute AUTO SET UP (page **12**). Do this procedure only when you want to set it manually.

1 Press MENU.

2 Press ↑ or ↓ to select 🗄, and press ⊕.

3 Set CABLE to ON or OFF:
(1) Press ↑ or ↓ to select CABLE, and press ⊕.
(2) Press ↑ or ↓ to select ON or OFF, and press ⊕.
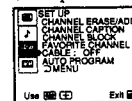
4 Press MENU to return to the original screen.

Note
• If CABLE appears in gray, the TV is set to a video input and you cannot select CABLE. Press TV (black button) so that a channel number appears.

Presetting channels

You can preset TV channels easily by using the AUTO PROGRAM feature. You do not have to do this procedure if you execute AUTO SET UP (page **12**). Do this procedure only when you want to set it manually.

1 Press MENU.

2 Press ↑ or ↓ to select 🗄, and press ⊕.

3 Press ↑ or ↓ to select AUTO PROGRAM, and press ⊕.
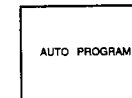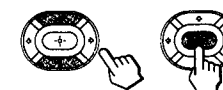
AUTO PROGRAM

"AUTO PROGRAM" appears on the screen and the TV starts scanning and presetting channels automatically. When all the receivable channels are stored, "AUTO PROGRAM" disappears and the lowest numbered channel is displayed.

4 Press MENU to return to the original screen.

To exit AUTO PROGRAM
Press any button.

Note
• If the AUTO PROGRAM menu appears in gray, the TV is set to a video input and you cannot select AUTO PROGRAM. Press TV (black button) so that a channel number appears.

Changing the menu language

■ **Except Canadian models**

If you prefer Spanish to English, you can change the menu language. You do not have to do this procedure if you select the language during AUTO SET UP (page **12**).

1 Press MENU.

2 Press ↑ or ↓ to select 🗄, and press ⊕.

3 Press ↑ or ↓ to select LANGUAGE, and press ⊕.

4 Press ↑ or ↓ to select your favorite language, "ENGLISH" or "ESPAÑOL," and press ⊕.
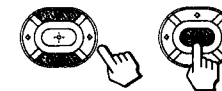
5 Press MENU to return to the original screen.

Note
• Certain parts of the Spanish menus remain in English.

Watching the TV
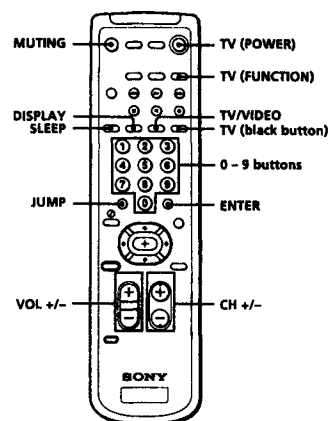
1 Press TV (POWER) to turn on the TV.

POWER

If "VIDEO" appears on the screen, press TV (black button) so that a channel number appears.

2 Press TV (FUNCTION).

— FUNCTION —

TV
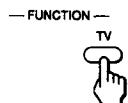
Once you press TV (FUNCTION), the TV function is set unless another function button is pressed.

---

3 Select the channel you want:

To select a channel directly
Press the 0 – 9 buttons, and press ENTER.
To scan through channels
Press CH +/– until the channel you want appears.

The channel can also be selected without pressing ENTER.

4 Press VOL +/– to adjust the volume.
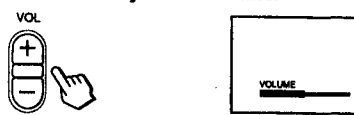
Switching quickly between two channels

You can use the JUMP button to switch or "jump" back and forth between two channels.

Press JUMP.

JUMP

Pressing JUMP again switches back the channel.

Note
• You cannot jump to channels you scanned through using the CH +/– buttons.

Muting the sound

Press MUTING.
"MUTING" appears on the screen.

MUTING

To restore the sound, press MUTING again, or press VOL +.

Displaying on-screen information

Press DISPLAY repeatedly until the desired display appears.
Each time you press DISPLAY, the display changes as follows:

Status display* → XDS** → Caption Vision***

└──────── DISPLAY OFF ◄────────┘
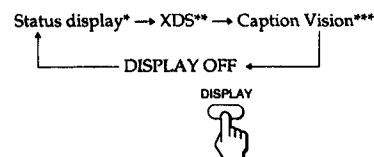
DISPLAY

* Channel number, the current time (only for available models), channel caption (if set), and MTS mode (if SAP is selected) are displayed. SAP indication disappears after three seconds.

** Some programs are broadcast with XDS (Extended Data Service) which shows a network name, program name, program type, program length, call letters, and time of the show. When you select XDS with the DISPLAY button, this information will be displayed on the screen if the broadcaster offers this service.

*** Some programs are broadcast with Caption Vision. When you select Caption Vision with the DISPLAY button, Caption Vision will be displayed on the screen if the broadcaster offers this service. (See page 27 for selecting Caption Vision.)

To cancel the display, press DISPLAY repeatedly until "DISPLAY OFF" appears. "DISPLAY OFF" goes off after three seconds.

Setting the Sleep Timer

The TV stays on for the length of time you specify and then shuts off automatically.
Press SLEEP repeatedly until the time (minutes) you want appears.
Each time you press SLEEP, the time changes as follows:

30 → 60 → 90 → SLEEP OFF
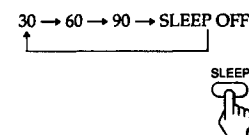
SLEEP

To cancel the Sleep Timer, press SLEEP repeatedly until "SLEEP OFF" appears, or turn the TV off.

Watching a video input picture

Press TV/VIDEO repeatedly until the desired video input appears.
Each time you press TV/VIDEO, the display changes as follows:

■ *KV-27S20/29PS1/29RS20/29RS20C/29SD1/32S20/ 34RS20C only*

TV → VIDEO 1

■ *KV-27V20/29V20M only*

TV → VIDEO 1 → VIDEO 2

TV/VIDEO
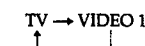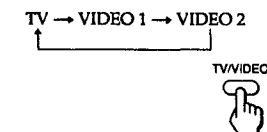
To return to the TV picture, press TV (black button) so that a channel number appears.

Adjusting the picture (VIDEO)

When watching TV programs, you can adjust the picture to suit your taste.
You can adjust the picture of video input(s) as well.
These settings are stored separately from those for the TV picture.
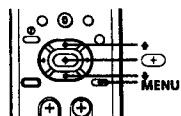
1 Press MENU.

2 Press ↑ or ↓ to select ⊞, and press ⊕.

3 Select the item you want to adjust.
For example:
(1) To adjust the brightness, press ↑ or ↓ to move the cursor (▶) to BRIGHTNESS.

. (2) Press ⊕.
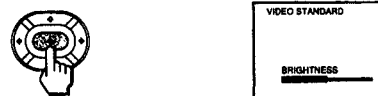
---

4 Adjust the selected item:
(1) Press ↑ or ↓ to adjust the item.

(2) Press ⊕.
The new setting appears in the VIDEO menu.

For details on each item, see "Description of adjustable items" below.

5 To adjust other items, repeat steps 3 and 4.

6 Press MENU to return to the original screen.

Description of adjustable items

Item	Press ↓ to	Press ↑ to
PICTURE	Decrease picture contrast and give soft color.	Increase picture contrast and give vivid color.
HUE	Make picture tones become purplish.	Make picture tones become greenish.
COLOR	Decrease color intensity.	Increase color intensity.
BRIGHTNESS	Darken the picture.	Brighten the picture.
SHARPNESS	Soften the picture.	Sharpen the picture.

To restore the factory settings
Press RESET while the VIDEO menu is displayed.
All the settings are restored to the factory settings.

Selecting the video mode (VIDEO)

The video mode feature allows you to choose three different modes of picture settings. Choose the one that best suits the type of program that you want to watch.

1 Press MENU.

2 Press ↑ or ↓ to select ⊞, and press ⊕.

3 Press ↑ or ↓ to select MODE, and press ⊕.

4 Press ↑ or ↓ to select STANDARD, MOVIE, or SPORTS mode, and press ⊕.

Choose	To
STANDARD	Receive a standard picture.
MOVIE	Receive a finely detailed picture.
SPORTS	Receive a vivid, bright picture.

5 Press MENU to return to the original screen.

Note
• The settings for these modes can be adjusted in the VIDEO menu.

Adjusting picture brightness automatically
(LIGHTSENSOR)

■ *KV-27V20/29V20M only*

The LightSensor feature adjusts the brightness of the picture automatically according to the ambient brightness.
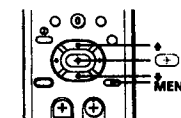
1 Press MENU.

2 Press ↑ or ↓ to select ⊞, and press ⊕.

3 Press ↑ or ↓ to select LIGHTSENSOR, and press ⊕.
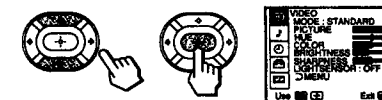
4 Press ↑ or ↓ to select ON or OFF, and press ⊕.
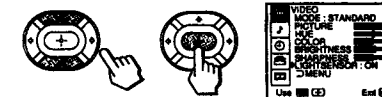
5 Press MENU to return to the original screen.

Note
• The LightSensor function may malfunction if you stand or place objects in front of the TV.

Adjusting the sound (AUDIO)

You can adjust the TV sound to suit your taste. You can adjust the sound of the video input(s) as well. These settings are stored separately from those for the TV sound.
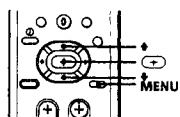
1 Press MENU.

2 Press ♠ or ♦ to select ♪, and press ⊕.

3 Select the item you want to adjust.
For example:
(1) To adjust bass, press ♠ or ♦ to move the cursor (▶) to BASS.
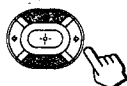
(2) Press ⊕.
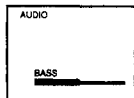
4 Adjust the selected item:
(1) Press ♠ or ♦ to adjust the item.
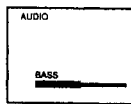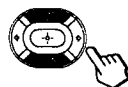
(2) Press ⊕.
The new setting appears in the AUDIO menu.

For details on each item, see "Description of adjustable items" below.

5 To adjust other items, repeat steps 3 and 4.

6 Press MENU to return to the original screen.

Description of adjustable items

Item	Press ♦ to	Press ♠ to
TREBLE	Decrease the treble response.	Increase the treble response.
BASS	Decrease the bass response.	Increase the bass response.
BALANCE	Emphasize the left speaker's volume.	Emphasize the right speaker's volume.

To restore the factory settings
Press RESET while the AUDIO menu is displayed.

Note
• When SPEAKER (page 21) is OFF and AUDIO OUT (page 22) is in the FIXED condition, the volume, TREBLE, BASS, and BALANCE cannot be adjusted.

Using audio effect (EFFECT)

Using the ② (audio effect) button

■ **For KV-27S20/29PS1/29RS20/29RS20C/29SD1/32S20/34RS20C only**

Press ②.
Each time you press the ② button, the display changes as follows:

SURROUND → SURROUND OFF

■ **For KV-27V20/29V20M only**

Press ②.
Each time you press the ② button, the display changes as follows:

SRS → SIMULATED → EFFECT OFF

Choose	To
SURROUND	Simulate sound reproduction with the atmosphere of a movie theater or a concert hall. Surround sound is only effective for stereo programs.
SRS	When the program's audio signal is stereo or encoded, SRS expands the material and embraces you with dynamic three-dimensional sound.
SIMULATED	Receive monaural sound with a surround-like effect.

Note
• To use the ② button function, press TV (FUNCTION).

Using the menu to set audio effect
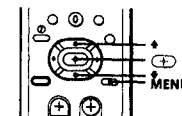
1 Press MENU.

2 Press ♠ or ♦ to select ♪, and press ⊕.

3 Press ♠ or ♦ to select EFFECT, and press ⊕.
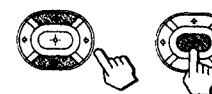
4 Press ♠ or ♦ to select the audio effect mode, and press ⊕.
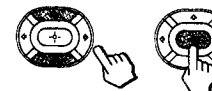
5 Press MENU to return to the original screen.

Selecting stereo or bilingual programs (MTS)

The Multichannel TV Sound (MTS) feature allows you to enjoy stereo sound or Second Audio Programs (SAP) of your choice. The initial setting is stereo sound (MAIN).
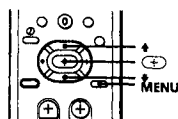
1 Press MENU.

2 Press ♦ or ♦ to select ♪, and press ⊕.

3 Press ♦ or ♦ to select MTS, and press ⊕.

4 Press ♦ or ♦ to select MAIN, SAP, or MONO, and press ⊕.

Choose	To
MAIN	Listen to stereo sound. The STEREO indicator on the TV lights up when a stereo broadcast is received.
SAP	Listen to bilingual programs. There is no sound when the SAP signal is not broadcasting.
MONO	Listen to monaural sound. Reduce noise during stereo broadcasts.

5 Press MENU to return to the original screen.

Note
• Stereo and SAP sounds are subject to program sources.

Setting the speaker switch (SPEAKER)

You may switch off the TV speakers when, for example, you want to listen to the sound through a stereo system.
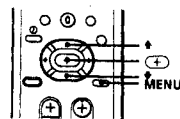
1 Press MENU.

2 Press ♦ or ♦ to select ♪, and press ⊕.

3 Press ♦ or ♦ to select SPEAKER, and press ⊕.

4 Press ♦ or ♦ to select ON or OFF, and press ⊕.

5 Press MENU to return to the original screen.

Setting audio out (AUDIO OUT)

You can change AUDIO OUT to VARIABLE or FIXED when SPEAKER is set to OFF.
AUDIO OUT is variable when SPEAKER is set to ON.
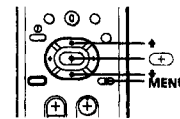
1 Press MENU.

2 Press ♦ or ♦ to select ♪, and press ⊕.

3 Press ♦ or ♦ to select AUDIO OUT, and press ⊕.
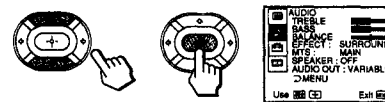
4 Press ♦ or ♦ to select VARIABLE or FIXED, and press ⊕.

VARIABLE: Sound output varied according to the TV settings. You can adjust the volume, bass, treble, and balance.

FIXED: Sound output is always fixed to a certain level. The volume, bass, treble, and balance are also fixed to the factory settings.

5 Press MENU to return to the original screen.

Note
• If AUDIO OUT appears in gray, set SPEAKER to OFF.

Setting daylight saving time (DAYLIGHT SAVING)

■ **KV-27V20/29V20M only**
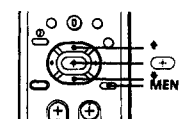
1 Press MENU.

2 Press ♦ or ♦ to select ⊘, and press ⊕.

3 Press ♦ or ♦ to select DAYLIGHT SAVING, and press ⊕.
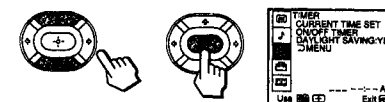
4 Press ♦ or ♦ to select YES or NO, and press ⊕.
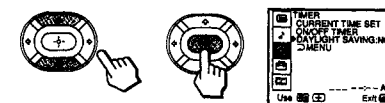
Choose	To
YES	Set for daylight saving start. The current time automatically moves one hour ahead.
NO	Set for daylight saving end.

5 Press MENU to return to the original screen.

15

Setting the clock
(CURRENT TIME SET)

■ **KV-27V20/29V20M only**

Setting the clock enables you to turn the TV on and off with the timer. Make sure to set daylight saving time first.
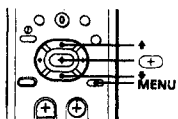
1 Press MENU.

2 Press ↟ or ↡ to select ☉, and press ⊕.

3 Press ↟ or ↡ to select CURRENT TIME SET, and press ⊕.

```
CURRENT TIME SET
  ▶___ __:__ AM
  ⊃MENU


Use 🎛 ⊕        Exit 🔲
```
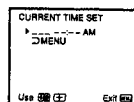
4 Make sure the cursor (▶) is to the left of "--:-- AM," and press ⊕.

```
CURRENT TIME SET
  SUN 12:00 AM
  ⊃MENU

Set the day.
Use 🎛 ⊕        Exit 🔲
```
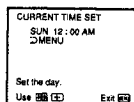
5 Set the current time.
(1) Press ↟ or ↡ to set the day, and press ⊕.

```
CURRENT TIME SET
  FRI 12:00 AM
  ⊃MENU

Set the time.
Use 🎛 ⊕        Exit 🔲
```

(2) Set the hour and minutes in the same way as in step (1). When you press ⊕ after setting the minutes, the clock starts.

```
CURRENT TIME SET
  FRI 12:04 AM
  ⊃MENU


Use 🎛 ⊕        Exit 🔲
```

6 Press MENU to return to the original screen.

Setting the timer to turn the TV on and off
(ON/OFF TIMER)

■ **KV-27V20/29V20M only**

You can set the TV to turn on and off at the times you specify. Make sure the clock is set correctly. If it is not, set the clock first.
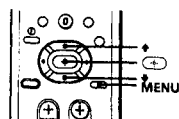
1 Press MENU.

2 Press ↟ or ↡ to select ☉, and press ⊕.

3 Press ↟ or ↡ to select ON/OFF TIMER, and press ⊕.

```
ON/OFF TIMER
  ▶--:-- AM _h CH____
  ⊃MENU

                SUN 12:00 AM
Use 🎛 ⊕        Exit 🔲
```
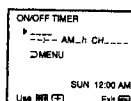
4 Press ⊕ and enter the ON/OFF TIMER setting.
(1) Press ↟ or ↡ to set the day(s), and press ⊕.

Each time you press ↟ or ↡, the days cycle as follows:
EVERY SUN–SAT→EVERY MON–FRI→
SUNDAY→...→SATURDAY→EVERY
SUNDAY→...→EVERY SATURDAY

```
ON/OFF TIMER
  EVERY SUN – SAT
  12:00 AM _h CH____
  ⊃MENU

Set the time.
                SUN 12:00 AM
Use 🎛 ⊕        Exit 🔲
```

---
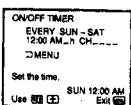
(2) Press ↟ or ↡ to set the time (hour then minutes) that you want to turn on the TV, and press ⊕.

```
ON/OFF TIMER
  EVERY SUN – SAT
  12:02 AM _h CH____
  ⊃MENU

Set the duration.
                SUN 12:00 AM
Use 🎛 ⊕        Exit 🔲
```
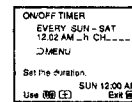
(3) Press ↟ or ↡ to set the time duration, and press ⊕.

Each time you press ↟, the time duration increases by one hour up to a maximum of six hours.

```
ON/OFF TIMER
  EVERY SUN – SAT
  12:02 AM 1h CH____
  ⊃MENU

Select the channel.
                SUN 12:00 AM
Use 🎛 ⊕        Exit 🔲
```

(4) Press ↟ or ↡ to select the channel, and press ⊕.

```
ON/OFF TIMER
  ▶EVERY SUN – SAT
  12:02 AM 1h CH  1
  ⊃MENU

                SUN 12:00 AM
Use 🎛 ⊕        Exit 🔲
```
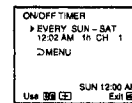
The TIMER indicator on the TV lights up.

5 Press MENU to return to the original screen.

One minute before the TV turns off, the message "TV will be off soon." is displayed on the screen.

To cancel the timer
In step 3 or 4, press RESET.

Note
• If you unplug the TV or a power interruption occurs, the ON/OFF TIMER setting will be erased. Reset the current time, then set the timer.

Customizing the channel names
(CHANNEL CAPTION)

You can add a caption for up to 12 channels. This feature allows you to easily identify which channel you are watching. You can make your own caption.

1 Press MENU.

2 Press ↟ or ↡ to select 🖼, and press ⊕.

```
  SET UP
  CHANNEL ERASE/ADD
  CHANNEL CAPTION
  CHANNEL BLOCK
  CABLE:  ON
  FAVORITE CHANNEL
  AUTO PROGRAM
  ⊃MENU

Use 🎛 ⊕        Exit 🔲
```
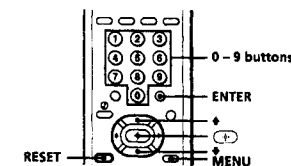
3 Press ↟ or ↡ to select CHANNEL CAPTION, and press ⊕.

```
CHANNEL CAPTION
  ▶  ___
           ⊃MENU


Use 🎛 ⊕        Exit 🔲
```
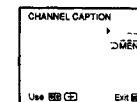
4 Press ⊕ and press ↟ or ↡ to select the channel that you want to caption, and press ⊕.

```
CHANNEL CAPTION
                    125
           ⊃MENU

Select the letter.
Use 🎛 ⊕        Exit 🔲
```
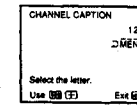
5 Enter the letters (up to four) to caption the channel:

(1) Press ↑ or ↓ to select the first letter.

Each time you press ↑ or ↓, the letter changes as follows:

0↔1↔...↔9↔A↔B↔...↔Z↔&↔/↔_(blank space)

(2) Press ⊕.

CHANNEL CAPTION
125
ESP
⊃MENU
Select the letter
Use ▦ ⊕   Exit ▦
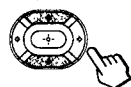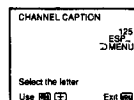
(3) Repeat steps (1) and (2) to select the remaining letters, and press ⊕.

6 To caption other channels, repeat steps 4 and 5.

7 Press MENU to return to the original screen.

After you customize the channel, the channel caption appears green.

To erase a caption
In step 5, press RESET.

Notes
• If the CHANNEL CAPTION menu appears in gray, the TV is set to a video input, and you cannot select CHANNEL CAPTION. Press TV (black button) so that a channel number appears.
• If more than 90 seconds elapse after you press a button, the menu disappears automatically.

Blocking out a channel (CHANNEL BLOCK)

The channel block feature allows you to prevent children from watching unsuitable programs. You can block out two channels.
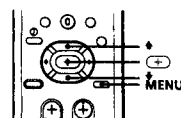
1 Press MENU.

2 Press ↑ or ↓ to select ⊟, and press ⊕.

3 Press ↑ or ↓ to select CHANNEL BLOCK, and press ⊕.

CHANNEL BLOCK
▶1. CH---
2. CH---
⊃MENU
Select a program
Use ▦ ⊕   Exit ▦
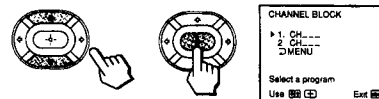
4 Press ↑ or ↓ to select 1 or 2, and press ⊕.
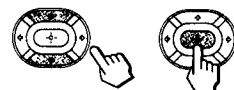
5 Press ↑ or ↓ to select the channel which you want to block out, and press ⊕.
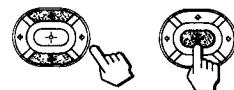
6 Press MENU to return to the original screen.
When you select the blocked channel "BLOCKED" appears on the screen.
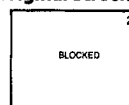
BLOCKED 2

To cancel a CHANNEL BLOCK setting
In step 4 or 5, press RESET.

Note
• Once you use CHANNEL BLOCK, Caption Vision and XDS of the blocked channel and the selected channel output from TV OUT/MONITOR OUT are also blocked out.

Setting your favorite channels (FAVORITE CHANNEL)

The favorite channel feature allows your TV to memorize your favorite channels easily. If you set to AUTO, the last five channels you selected with the 0 – 9 buttons are automatically set as your favorite channels. If you want to input your own selection of channels, set to MANUAL.

Setting your favorite channels
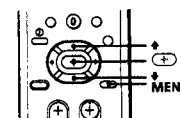
1 Press MENU.

2 Press ↑ or ↓ to select ⊟, and press ⊕.

3 Press ↑ or ↓ to select FAVORITE CHANNEL, and press ⊕.

FAVORITE CHANNEL
▶MODE: AUTO
⊃MENU
Use ▦ ⊕   Exit ▦
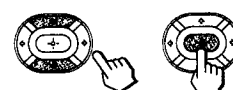
4 Press ⊕ and press ↑ or ↓ to select AUTO or MANUAL, and press ⊕.

FAVORITE CHANNEL
▶MODE MANUAL
⊃MENU
Select a position
Use ▦ ⊕   Exit ▦
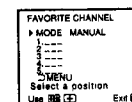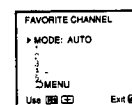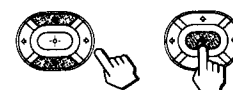
If you select AUTO, skip steps 5 and 6.
The last five channels you selected with the 0 – 9 buttons are automatically set as your favorite channels.

If you select MANUAL, the favorite channel numbers become white, indicating that favorite channels can be entered.

---

5 Press ↑ or ↓ to select a favorite channel number, and press ⊕.

FAVORITE CHANNEL
MODE: MANUAL
1 ---
2 ---
3 ---
⊃MENU
Select the channel
Use ▦ ⊕   Exit ▦
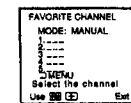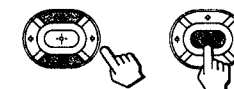
6 Press ↑ or ↓ to select the channel that you want to set as your favorite channel, and press ⊕.

FAVORITE CHANNEL
MODE: MANUAL
▶1   5
2 ---
3 ---
⊃MENU
Select a position
Use ▦ ⊕   Exit ▦
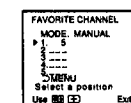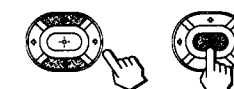
7 Press MENU to return to the original screen.

Notes
• If the FAVORITE CHANNEL menu appears in gray, the TV is set to a video input and you cannot select FAVORITE CHANNEL.
• If more than 90 seconds elapse after you press another button, the menu disappears automatically.

Selecting your favorite channel
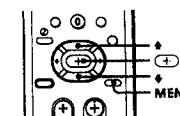
1 Press ⊕.
The FAVORITE CHANNEL menu appears.

125 ESPN
14 ABC
48 CBS
▶5 HBO
_5 CBC
Exit
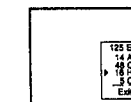
2 Press ↑ or ↓ to select the favorite channel you want to watch, and press ⊕.
The selected channel appears on the screen.

To cancel the FAVORITE CHANNEL menu
Press ↑ or ↓ to select "Exit," and press ⊕.

Setting Caption Vision (CAPTION VISION)

Some programs are broadcast with Caption Vision. To display Caption Vision, select either CC1, CC2, CC3, CC4, TEXT1, TEXT2, TEXT3, or TEXT4 from the menu. CC1, CC2, CC3, or CC4 shows you a caption, that is a printed version of the dialogue or sound effects of a program. (The mode should be set to CC1 for most programs.) TEXT1, TEXT2, TEXT3, or TEXT4 shows you text, that is information presented using either half or the whole screen. It is not usually related to the program.
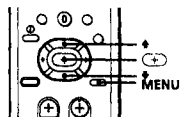
1 Press MENU.

2 Press ♦ or ♦ to select ▦, and press ⊕.
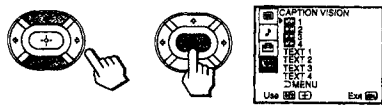
3 Press ♦ or ♦ to select the caption type, and press ⊕.

4 Press MENU to return to the original screen.

To display Caption Vision
Press DISPLAY. (See page 16 for details.)

Notes
• Poor reception of TV programs can cause errors in Caption Vision and XDS.
  Captions may appear with a white box or other errors instead of a certain word.
• XDS, Caption Vision, and the status display cannot be used at the same time.
• For details on XDS, see page 16.

Operating video equipment

You can use the supplied remote commander to operate Sony or non-Sony video equipment that has an infrared remote sensor. For this operation, set the manufacturer's code number.

Setting the manufacturer's code
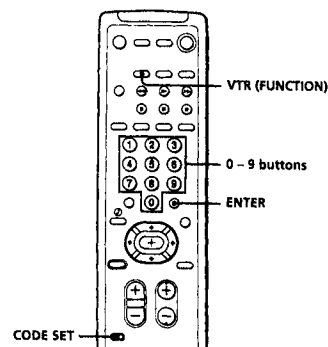
Press the CODE SET, VTR (FUNCTION), and 0 - 9 buttons to enter the manufacturer's code number (see the chart in the following page), then press ENTER. For example, to operate a Sony 8 mm VCR, press CODE SET, VTR (FUNCTION), 3, 0, 2, and ENTER.
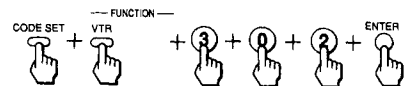
(continued)

VCR manufacturer code numbers

Manufacturer	Code number
Sony	301, 302, 303
Aiwa	338
Audio Dynamic	314, 337
Bell & Howell (M. Wards)	330, 343
Brocsonic	319
Canon	309, 308
Citizen	332
Craig	315, 302, 332
Curtis Mathis	304, 338, 309
Daewoo	341, 312, 309
DBX	314, 336, 337
Dimensia	304
Emerson	319, 320, 316, 317, 318
Fisher	330, 334, 335, 333
Funai	338
General Electric	329, 304, 309
Goldstar	332
Hitachi	306, 304, 305
Instant Replay	309, 308
JC Penny	309, 305, 304, 330, 314, 336, 337
JVC	314, 336, 337
Kenwood	314, 336, 332, 337
LXI (Sears)	332, 305, 333, 334, 330, 335
Magnavox	308, 309
Marantz	314, 336, 337
Marta	332
Memorex	309, 335
Minolta	305, 304
Mitsubishi/MGA	323, 324, 325, 326
Multitech	325, 338, 321
NEC	314, 336, 337
Olympic	309, 308
Panasonic	308, 309, 306, 307
Pentax	305, 304
Philco	308, 309
Philips	308, 309
Pioneer	308
Quasar	308, 309
RCA/PROSCAN	304, 305, 308, 309, 311, 312, 313
Realistic	309, 330, 328, 335, 324, 338
Sansui	314
Singer	315
Samsung	322, 313, 321
Sanyo	330, 335
Scott	312, 313, 321, 335, 323, 324, 325, 326
Sharp	327, 328
Shintom	315
Signature 2000 (M. Wards)	338, 327
Sylvania	308, 309, 338
Symphonic	338
Tashiro	332
Tatung	314, 336, 337
Teac	314, 336, 338, 337
Technics	309, 308
Toshiba	312, 311
Wards	327, 328, 335, 331, 332
Yamaha	330, 314, 336, 337
Zenith	331

Notes
• If more than one code number is listed, try entering them one by one, until you come to the correct code for your equipment.
• In some rare cases, you may not be able to operate your non-Sony video equipment with the supplied remote commander. This is because your equipment may use a code that is not included with this remote commander. In this case, please use the equipment's own remote control unit.
• The code numbers for Sony equipment are assigned at the factory as follows:

VHS VCR	301 (preset code for the supplied remote commander)
8 mm VCR	302
Beta, ED Beta VCRs	303

• Whenever you remove the batteries — to replace them, for example — if too much time is taken, the code numbers may revert to the factory settings and must be reset.

Operating video equipment
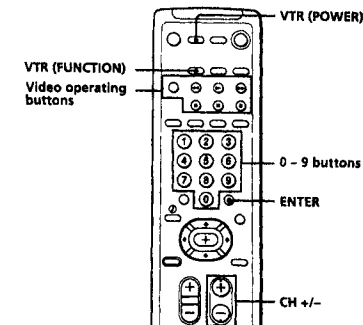
Use the video operating buttons on the remote commander to operate the video equipment. Press VTR (FUNCTION) before operating the video equipment.

Operating a VCR	Buttons on the remote commander
To turn on or off	Press VTR (POWER).
To select a channel directly	Press the 0 – 9 buttons.
To change channels	Press CH +/–.
To record	Press ► while pressing ●. First release ►, then release ●.
To play	Press ►.
To stop	Press ■.
To fast forward	Press ►►.
To rewind the tape	Press ◄◄.
To pause	Press II. To resume normal playback, press again.
To search the picture forward or backward	Press ►► or ◄◄ during playback. To resume normal playback, release the button.
To change input mode	Press TV/VTR.

Note
• If the video equipment does not have a certain function, the corresponding button on this remote commander will not operate.

Operating a cable box or DBS receiver

You can program the supplied remote commander to operate a cable box or DBS receiver. Follow the procedures below to set the manufacturer's code number in the remote commander.

- DBS/CABLE (POWER)
- DBS/CABLE (FUNCTION)
- DISPLAY*
- 0 - 9 buttons
- JUMP
- TV/DBS*
- ENTER
- GUIDE*
- $\bullet/\bullet/\bullet/\bullet/\oplus$ *
- MENU*
- CH +/–
- CODE SET

* The TV/DBS, GUIDE, DISPLAY, $\bullet/\bullet/\bullet/\bullet/\oplus$, and MENU buttons can be used only with a DBS receiver.

1 Turn off the equipment you want to set up, and press DBS/CABLE (FUNCTION).

```
—— FUNCTION ——
DBS/CABLE
```

2 Press the CODE SET, DBS/CABLE (FUNCTION), and 0 - 9 buttons to enter the manufacturer's code number (see the chart), then press ENTER. For example, to program your remote commander to operate a Sony DBS receiver, press CODE SET, DBS/CABLE (FUNCTION), 8, 0, 1, and ENTER.

```
—— FUNCTION ——
CODE SET   DBS/CABLE                          ENTER
```

3 Press DBS/CABLE (POWER) to turn on the cable box or DBS receiver.

```
         POWER
DBS/CABLE
```

4 Use the cable box/DBS control buttons to check if the code number works.
For example, to operate a cable box or DBS receiver, you can use the DBS/CABLE (POWER), JUMP, CH +/–, 0 – 9 and ENTER buttons.

Note
- If the cable box or DBS receiver does not have a certain function, the corresponding button on this remote commander will not operate.

To operate the TV
Press TV (FUNCTION). Then use the TV control buttons to control the TV.

For more details on operating the cable box or DBS receiver
Refer to the operating instructions that come with the equipment.

If the remote commander doesn't work
- First, try repeating the setup procedures using the other codes listed for your equipment.

Manufacturer code numbers (cable box)

Manufacturer	Code number
Hamlin/Regal	222, 223, 224, 225, 226
Jerrold/G. I.	201, 202, 203, 204, 205, 206, 207, 208, 218
Oak	227, 228, 229
Panasonic	219, 220, 221
Pioneer	214, 215
Scientific Atlanta	210, 211
Tocom	216, 217
Zenith	212, 213

Manufacturer code numbers (DBS receiver)

Manufacturer	Code number
Sony	801 (preset code for the supplied remote commander)

Notes
- If more than one code number is listed, try entering them one by one until you come to the correct code for your equipment.
- If you enter a new code number, the code number you previously entered at that setting is erased.
- In some rare cases, your equipment may use a code that is not provided with this remote commander and you may not be able to operate your equipment with the supplied remote commander. In this case, use the equipment's own remote control unit.
- Whenever you remove the batteries — to replace them, for example — if too much time is taken, the code numbers may revert to the factory setting and must be reset.

Additional Information

Troubleshooting

If the problem persists after trying the methods below, contact your nearest Sony dealer.

No picture (screen not lit), no sound
- ➡ Make sure the power cord is connected securely.
- ➡ Operate with the buttons on the TV.
- ➡ Insert the batteries in the remote commander with the correct polarity.
- ➡ Replace the batteries with new ones if they are weak.
- ➡ Check to see if the TV/VIDEO setting is correct: when watching TV, set to TV, and when watching video tapes, set to VIDEO1 or 2.
- ➡ Try another channel. It could be station trouble.
- ➡ Peform AUTO SET UP again using the SET UP button to return to the factory preset condition. (page 12)

Poor or no picture (screen lit), good sound
- ➡ Adjust PICTURE in the VIDEO menu. (page 17)
- ➡ Adjust BRIGHTNESS in the VIDEO menu. (page 17)
- ➡ Check antenna/cable connections.
- ➡ Peform AUTO SET UP again using the SET UP button to return to the factory preset condition. (page 12)
- ➡ Remove objects from the front of TV.
- ➡ Check the LIGHTSENSOR setting in the VIDEO menu. (page 18)

Good picture, no sound
- ➡ Press MUTING so that "MUTING" disappears from the screen. (page 15)
- ➡ Check the MTS setting in the AUDIO menu. (page 21)
- ➡ Make sure SPEAKER is set to ON in the AUDIO menu. (page 21)
- ➡ Peform AUTO SET UP again using the SET UP button to return to the factory preset condition. (page 12)

No color
- ➡ Adjust the COLOR in the VIDEO menu. (page 17)
- ➡ Black and white programs cannot be seen in color.
- ➡ Peform AUTO SET UP again using the SET UP button to return to the factory preset condition. (page 12)

Only snow and noise appear on the screen
- ➡ Check the CABLE setting in the SET UP menu. (page 14)
- ➡ Check the antenna/cable connections.
- ➡ Make sure the channel is broadcasting programs.
- ➡ Press TV (black button) to change the input mode. (page 16)

Dotted lines or stripes
- ➡ Adjust the antenna.
- ➡ Move the TV away from noise sources such as cars, neon signs, and hair-dryers.

Double images or ghosts
- ➡ Use a highly directional outdoor antenna or a cable (when the problem is caused by reflections from nearby mountains or tall buildings).

Cannot operate menu
- ➡ If the item you want to choose appears in gray, you cannot select it. Press TV/VIDEO correctly.

Cannot receive upper channels (UHF) when using an antenna
- ➡ Make sure CABLE is OFF in the SET UP menu. (page 14)
- ➡ Use AUTO PROGRAM to add receivable channels that are not presently in TV memory. (pages 13, 14)

Cannot receive any channels when using cable TV
- ➡ Make sure CABLE is ON in the SET UP menu. (page 14)
- ➡ Use AUTO PROGRAM to add receivable channels that are not presently in TV memory. (pages 13, 14)

Remote commander does not operate
- ➡ Batteries could be weak. Replace the batteries.
- ➡ Make sure the TV's power cord is connected securely to the wall outlet.
- ➡ Press TV (FUNCTION) when operating your TV.
- ➡ Are fluorescent lights too close to the TV? Move them at least 3-4 feet away from the TV.

Cannot gain enough volume when using a cable box
- ➡ Increase the volume at the cable box. Then press TV (FUNCTION) and adjust the TV's volume.

The TV needs to be cleaned
- ➡ Clean the TV with a soft dry cloth. Never use strong solvents such as thinner or benzine, which might damage the finish of the cabinet.

Watching two programs at a time —PIP

The Picture-in-Picture (PIP) feature allows you to watch both the main picture and a window picture simultaneously.

For KV-27S25/27V25/29RS25/29RS25C/29V65M/ 32S25/32TW25/32V25, your TV must be connected to a VCR to enjoy this feature. See "Connecting an antenna/cable TV system with a VCR" (page 6) for connections. In order to operate PIP, your VCR must be turned on.

FREEZE
CH +/– (yellow labelled button)
POSITION
AUDIO
SWAP
PIP
TV/VIDEO (yellow labelled button)
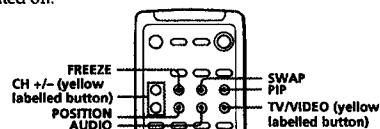
Use the yellow labelled buttons for PIP operations.

Displaying a window picture

Press PIP.

PIP

Input-source mode or TV channel for the main picture
Main picture
Window picture (1/9 size)
Input-source mode or TV channel for the window picture
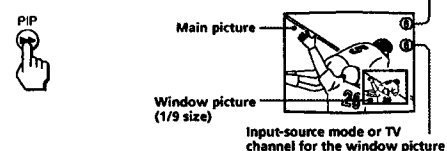
Press PIP again to display a smaller window picture.

PIP

Main picture
Window picture (1/16 size)
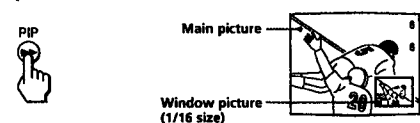
To remove the window picture, press PIP again.

Note
• The window picture may be affected by the condition of the main picture.

Changing the window picture input mode

Press TV/VIDEO (yellow labelled button) to select the input mode.
Each time you press TV/VIDEO (yellow labelled button), "TV," "VIDEO 1," "VIDEO 2," and "VIDEO 3 (KV-27V25/27V35/29V35C/29V65M/29V75M/32V25/ 32V35/34V35C/35V35/35V45/35V75 only)" appear in sequence.

TV/VIDEO

A window picture will appear in the same input mode as the last time you used PIP.

Note
• If you use one of the connections from page 6, your PIP input source is a VCR. If you use one of the connections from page 7, your PIP input source is a VCR or cable box.

Listening to the sound of the window picture

Press AUDIO.
The ♪ display appears next to the PIP channel number for a few seconds, indicating that the window picture sound is being received.

AUDIO

The sound of the window picture is received.

To restore the main picture sound, press AUDIO again. The ♪ display moves to the main picture channel number.

Changing TV channels in the window picture

Press CH +/– (yellow labelled button).

TV/VTR
+
CH
–

VIDEO 1   VIDEO 1   VIDEO 1

Operating a cable box or DBS receiver

You can program the supplied remote commander to operate a cable box or DBS receiver. Follow the procedures below to set the manufacturer's code number in the remote commander.

DBS/CABLE (POWER)
DBS/CABLE (FUNCTION)
DISPLAY*
0 – 9 buttons
JUMP
TV/DBS*
ENTER
GUIDE*
◆/◆/◆/◆/(⊕)*
MENU*
CH +/–
CODE SET

* The TV/DBS, GUIDE, DISPLAY, ◆/◆/◆/◆/(⊕), and MENU buttons can be used only with a DBS receiver.

1 Turn off the equipment you want to set up, and press DBS/CABLE (FUNCTION).

FUNCTION
DBS/CABLE

2 Press the CODE SET, DBS/CABLE (FUNCTION), and 0 – 9 buttons to enter the manufacturer's code number (see the chart), then press ENTER. For example, to program your remote commander to operate a Sony DBS receiver, press CODE SET, DBS/CABLE (FUNCTION), 8, 0, 1, and ENTER.

FUNCTION
CODE SET DBS/CABLE   ENTER

3 Press DBS/CABLE (POWER) to turn on the cable box or DBS receiver.

POWER
DBS/CABLE

4 Use the cable box/DBS control buttons to check if the code number works.
For example, to operate a cable box or DBS receiver, you can use the DBS/CABLE (POWER), JUMP, CH +/–, 0 – 9 and ENTER buttons.

Note
• If the cable box or DBS receiver does not have a certain function, the corresponding button on this remote commander will not operate.

To operate the TV
Press TV (FUNCTION). Then use the TV control buttons to control the TV.

For more details on operating the cable box or DBS receiver
Refer to the operating instructions that come with the equipment.

If the remote commander doesn't work
• First, try repeating the setup procedures using the other codes listed for your equipment.

Manufacturer code numbers (cable box)

Manufacturer	Code number
Hamlin/Regal	222, 223, 224, 225, 226
Jerrold/G. I.	201, 202, 203, 204, 205, 206, 207, 208, 218
Oak	227, 228, 229
Panasonic	219, 220, 221
Pioneer	214, 215
Scientific Atlanta	210, 211
Tocom	216, 217
Zenith	212, 213

Manufacturer code numbers (DBS receiver)

Manufacturer	Code number
Sony	801 (preset code for the supplied remote commander)

Notes
• If more than one code number is listed, try entering them one by one until you come to the correct code for your equipment.
• If you enter a new code number, the code number you previously entered at that setting is erased.
• In some rare cases, your equipment may use a code that is not provided with this remote commander and you may not be able to operate your equipment with the supplied remote commander. In this case, use the equipment's own remote control unit.
• Whenever you remove the batteries — to replace them, for example — if too much time is taken, the code numbers may revert to the factory setting and must be reset.

Troubleshooting

If the problem persists after trying the methods below, contact your nearest Sony dealer.

No picture (screen not lit), no sound
→ Make sure the power cord is connected securely.
→ Operate with the buttons on the TV.
→ Insert the batteries in the remote commander with the correct polarity.
→ Replace the batteries with new ones if they are weak.
→ Check to see if the TV/VIDEO setting is correct: when watching TV, set to TV, and when watching video tapes, set to VIDEO1, 2 or 3.
→ Try another channel. It could be station trouble.
→ Peform AUTO SET UP again using the SET UP button to return to the factory preset condition. (page 15)

Poor or no picture (screen lit), good sound
→ Adjust PICTURE in the VIDEO menu. (page 22)
→ Adjust BRIGHTNESS in the VIDEO menu. (page 22)
→ Check antenna/cable connections.
→ Peform AUTO SET UP again using the SET UP button to return to the factory preset condition. (page 15)
→ Remove objects from the front of TV.
→ Check the LIGHTSENSOR setting in the VIDEO menu. (page 24)

Good picture, no sound
→ Press MUTING so that "MUTING" disappears from the screen. (page 19)
→ Check the MTS setting in the AUDIO menu. (page 26)
→ Make sure SPEAKER is set to ON in the AUDIO menu. (page 27)
→ Peform AUTO SET UP again using the SET UP button to return to the factory preset condition. (page 15)

No color
→ Adjust the COLOR in the VIDEO menu. (page 22)
→ Black and white programs cannot be seen in color.
→ Peform AUTO SET UP again using the SET UP button to return to the factory preset condition. (page 15)

Only snow and noise appear on the screen
→ Check the CABLE setting in the SET UP menu. (page 17)
→ Check the antenna/cable connections.
→ Make sure the channel is broadcasting programs.
→ Press TV (black button) to change the input mode. (page 20)

Dotted lines or stripes
→ Adjust the antenna.
→ Move the TV away from noise sources such as cars, neon signs, and hair-dryers.

Double images or ghosts
→ Use a highly directional outdoor antenna or a cable (when the problem is caused by reflections from nearby mountains or tall buildings).

Cannot operate menu
→ If the item you want to choose appears in gray, you cannot select it. Press TV/VIDEO correctly.

Cannot receive upper channels (UHF) when using an antenna
→ Make sure CABLE is OFF in the SET UP menu. (page 17)
→ Use AUTO PROGRAM to add receivable channels that are not presently in TV memory. (pages 15, 17)

Cannot receive any channels when using cable TV
→ Make sure CABLE is ON in the SET UP menu. (page 17)
→ Use AUTO PROGRAM to add receivable channels that are not presently in TV memory. (pages 15, 17)

Remote commander does not operate
→ Batteries could be weak. Replace the batteries.
→ Make sure the TV's power cord is connected securely to the wall outlet.
→ Press TV (FUNCTION) when operating your TV.
→ Are fluorescent lights too close to the TV? Move them at least 3-4 feet away from the TV.
→ Check the S-Link connection. (page 10)

Cannot gain enough volume when using a cable box
→ Increase the volume at the cable box. Then press TV (FUNCTION) and adjust the TV's volume.

TV malfunctions when using the S-Link function
(KV-27V25/27V35/29V35C/29V65M/29V75M/32V25/32V35/ 34V35C/35V35/35V45/35V75 only)
→ Make sure the TV's power cord is connected securely to the wall outlet.
→ Check the S-Link connection. (page 10)

The TV needs to be cleaned
→ Clean the TV with a soft dry cloth. Never use strong solvents such as thinner or benzine, which might damage the finish of the cabinet.

SECTION 2
DISASSEMBLY

2-1. REAR COVER REMOVAL

④ Speaker box assy (L)

③ Rear cover

② Eleven screws
(+BVTP 4X16)

⑤ Speaker box assy (R)

① Two screws
(+BVTP 3X12)

2-2. CHASSIS ASSY REMOVAL

① Claw

④ G board

③ Power cord

⑤ K board
(KV-27V35/29V35C/29V75M/
32V35/34V35C)

② Chassis assy

2-3. SERVICE POSITION

G board

A board

2-4. CONTROL SWITCH REMOVAL
(KV-27V35/29V35C/29V75M/32V35/34V35C)

① Four claws

② Control switch

2-5. PICTURE TUBE REMOVAL
(KV-27V20/27V25/27V35/29V20M/29V35C/29V65M/29V75M)

WARNING : **Before removing anode cap**

H.V. remains in the CRT even after the power
is disconnected.

To avoid electrical shock before attempting
to remove the anode cap, discharge CRT:
Short between anode and CRT coated earth
ground strap.

Coated earth ground strap

⑧ Two DGC holders (M)

Claw

③ G board

② Chassis assy

⑨ Degaussing coil

⑤ C board

⑥ Neck assy
(KV-27V35/29V35C/29V75M)

⑦ Deflection yoke

④ K board
(KV-27V35/29V35C/29V75M)

⑪ Four screws
(Tapping screw 7)

⑩ Tension spring (B)

① Anode cap

⑫ Picture tube

Cushion

2-6. PICTURE TUBE REMOVAL
(KV-32V25/32V35/34V35C)

WARNING : **Before removing anode cap**

H.V. remains in the CRT even after the power
is disconnected.

To avoid electrical shock before attempting
to remove the anode cap, discharge CRT:
Short between anode and CRT coated earth
ground strap.

Coated earth ground strap

⑧ Four screws
(Tapping screw 7)

③ G board

② Chassis

⑨ Picture tube shield assy

⑤ C board

⑥ Neck assy
(KV-32V35/34V35C)

⑦ Deflection yoke

④ K board
(KV-32V35/34V35C)

⑩ Picture tube

① Anode cap

Cushion
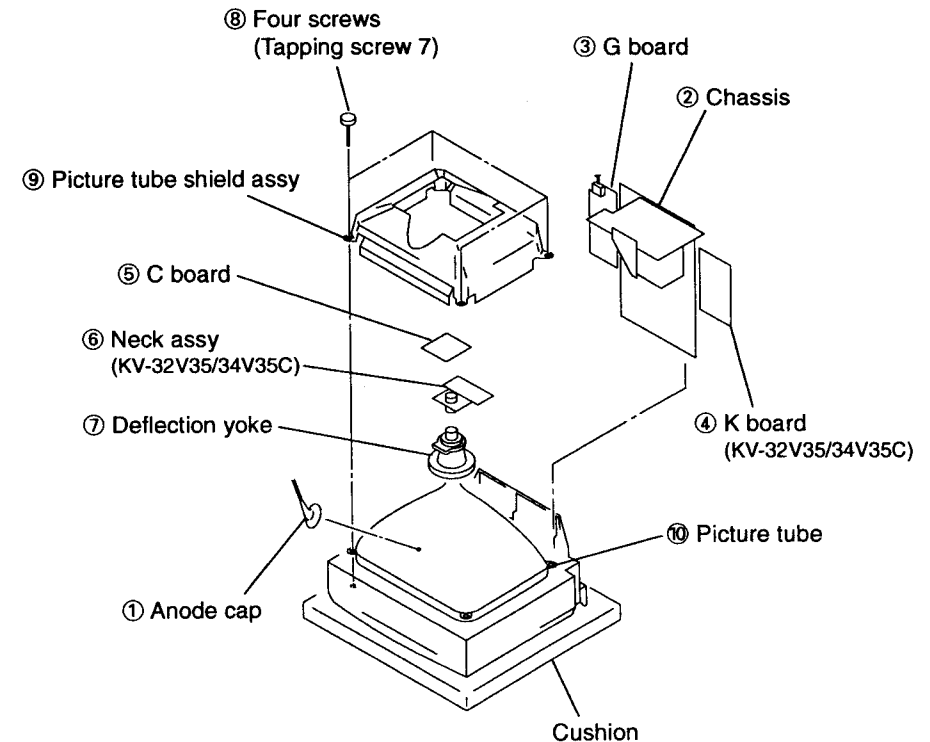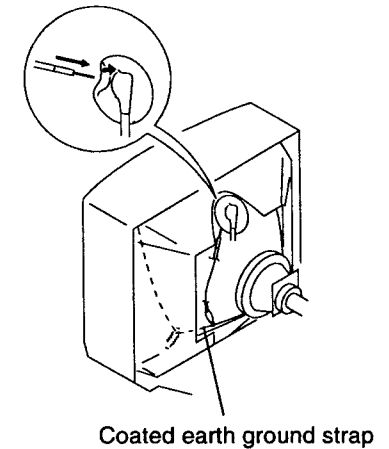
• REMOVAL OF ANODE-CAP

NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

• REMOVING PROCEDURES
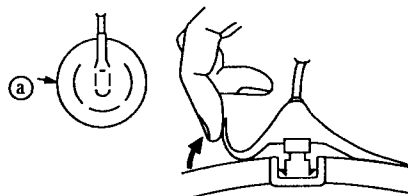
① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.
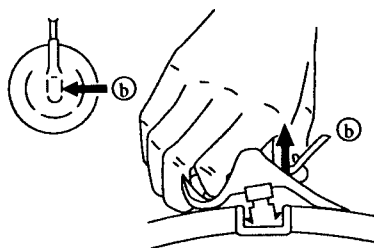
② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.
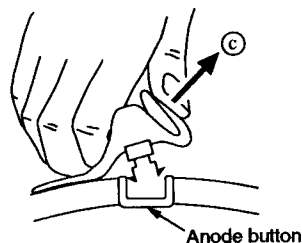
Anode button

③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.
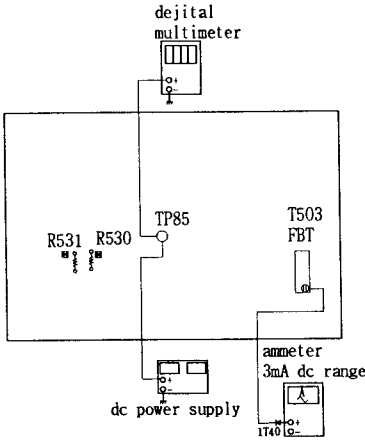
• HOW TO HANDLE AN ANODE-CAP

① Don't hurt the surface of anode-caps with sharp shaped material!
② Don't press the rubber hardly not to hurt inside of anode-caps! A material fitting called as shatter-hook terminal is built in the rubber.
③ Don't turn the foot of rubber over hardly! The shatter-hook terminal will stick out or hurt the rubber.
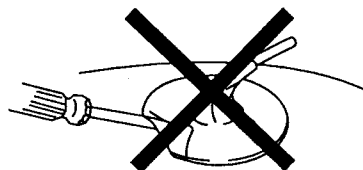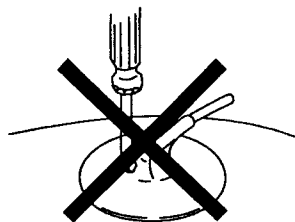
SECTION 3

SAFETY RELATED ADJUSTMENTS

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER

☒ *RESISTOR CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS
 	
The following adjustments should always be performed when replacing the following components (*marked with ☒ on the schematic diagram).
(Hold-down operation confirmation)
 	
Step 1
1. Preparation before confirmation
  1) Turn the POWER switch ON, and receive *signal and set the *PICTURE and BRIGHTNESS controls to adjustment.
  2) Confirm that the voltage of the check terminal of *TP is more than *voltage when the set is operating normaly with *Power supply.
 	
Step 2
2.Confirm that a I ABL.
 	
Step 3
4.Using an external DC power supply, apply voltage between TP 85 and groud.
Increase gradually the voltage and confirm that the hold-down works (Raster disappears) at lower than the voltag obtained Step 2 mentioned above *voltage.
Step 4
5.Confirm that a voltage of more than *voltage appears TP85 and ground.
	
	* White Picture
	
	*Digital multimeter
	
	* White Picture
	
	* White Picture
		*☑ marked parts IC643,IC351,IC501 D519,D520,D521, C531,C532, R387,R529,R530,R531 R532,R533,R550,R661 T503
		
		*TP85 (H. PROT)
			*☒ R530,531
			
			*PICTURE BRIGHTNESS ⎱
			...... maximum ⎰
			
			*PICTURE BRIGHTNESS
			...... maximum
				A BOARD - CONDUCTOR SIDE -
				
				[Check Condition]Step 1
				*more than 18.0VDC (32/34 inch only)
				*more than 21.0VDC (27/29 inch only)
				*130 $^{+2.0}_{-0}$ VAC (Power Supply) (except 29V35C/34V35C)
				*220 $^{+2.0}_{-0}$ VAC (Power Supply) (29V35C/34V35C only)
				
				[Check Condition]Step 2
				*1760 ±100 µA (27/29 inch only)
				*2160 ±100 µA (32/34 inch only)
				*130 $^{+2.0}_{-0}$ VAC (Power Supply) (except 29V35C/34V35C)
				*220 $^{+2.0}_{-0}$ VAC (Power Supply) (29V35C/34V35C only)
				
				[Check Condition]Step 3
				*lower than 22.05 VDC (32/34 inch only)
				*lower than 26.05 VDC (27/29 inch only)
				*130 $^{+2.0}_{-0}$ VAC (Power Supply) (except 29V35C/34V35C)
				*220 $^{+2.0}_{-0}$ VAC (Power Supply) (29V35C/34V35C only)
				
				[Check Condition]Step 4Step 4
				*more than 18.0VDC (32/34 inch only)
				*more than 21.0VDC (27/29 inch only)
				*130 $^{+2.0}_{-0}$ VAC (Power Supply) (except 29V35C/34V35C)
				*220 $^{+2.0}_{-0}$ VAC (Power Supply) (29V35C/34V35C only)

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
B+ VOLTAGE CONFIRMATION The following adjustments should always be performed when replacing the following *components. 1) Supply *Voltage AC to with *variable auto-transformer. 2) Input an entirely *signal. 3) Set the PICTURE control and the BRIGHTNESS control to adjustment. 4) Confirm the voltage of *TP is less than *Voltage DC. 5) If step 4) is not satisfied, replace the *components repeat above steps.	*Variable auto-transformer *Monoscope	*IC643, R661 *G Board CN641 Pin 1 - ground	*PICTURE, BRIGHTNESS .... initial reset *R661	*130 $^{+2.0}_{-0}$ VAC (except 29V35C/34V35C) *220 $^{+2.0}_{-0}$ VAC (29V35C/34V35C only) *Less than 136.5 VDC

4-1. BLOCK DIAGRAMS

A (1/2) (TUNER,H/V,SYSTEM CONTROL, Y/C JUNGLE)

HV (FUNCTION SW, SIRCS, EXT IN)

CN1766

FV (FROM FBT)

CN351

1	R	
2	G	
3	B	
4	9V	9V
5	E	
6	IK	

9V

CN1761

R OUT Q1761,1762
G OUT Q1771,1772
B OUT Q1781,1782

R
G
B
H

V901 PICTURE TUBE

HV (FROM FBT)

(CHASSIS)

G4

E

R-IK-DET Q1763 G-IK-DET Q1773 B-IK-DET Q1783

IK-BUFF Q1790

CN1764

1	H
2	E
3	
4	200V	200V

200V

C (RGB OUT)

CN3001

14	PY	14
15	PRY	15
16	PBY	16
17	PYS	17
12	SUB.V.P	12
18	2CH BLK	18
1	MAIN.C	1
4	MAIN.Y	4
6	SUB COL	6
7	SUB HUE	7
11	E	11
13		13
8	9V	8
19	SDA	19
20	SCL	20
5	SUB.V	5
2	E	2
4		4
9	MAIN.V.P	9
10	MAIN.H.P	10

CN3301

Q3308,3313 INV

Q3310 INV

IC3301 CHROMA DEC.

X3301 3.58MHz X-TAL

VP BP

IC3302 5V REG 5V

IC3303 P in P PROCESSOR

Y OUT
V OUT
U OUT
SEL
S.VSYNC
S.HSYNC

COL
HUE

U IN
V IN
Y IN

U
V
Y

XO

X3302 20.48MHz

X IN

SDA
SCL

VIDEO

M.VSYNC
M.HSYNC

P (P in P)

9V

CN501

6	VDY+	6
5	VDY-	5
4	HDY-	4
3	HDY-	3
2	HDY+	2
1	HDY+	1

DEFFRECTION YOKE

CN503

1	H
2	E
3	
4	200V

(CRT)
(C BOARD)

KV-32V25(CND) ONLY

SW BOX

POWER ON
KEY

CN2002

KV-32V25/32V35/34V35C ONLY

CN1231

1	FRONT-Y	1
4	FRONT-C	4
5	FRONT-SW	5
3	FRONT-V	3
6	FRONT-L	6
7	FRONT-R	7
28	E	28

CN2102

J2232 FRONT VIDEO 2

EXCEPT KV-32V25(CND)

S2007
S2001
S2006

S VIDEO
KV-32V25(CND) ONLY

J2231

V
L
R

5V

IC2003 SIRCS

IC2004 LUMISPONDER

5V

CN2101

7	POWER ON	7
9	KEY	9
2	STBY 5V	2
3	E	3
4	N.C	4
5	TIMER LED	5
	ST LED	
1	SIRCS	1
6	LUMIPON	6

CN1001

5V

HS (1/2) **HV** (FUNCTION SW, SIRCS, EXT IN) **HS** (2/2)

G (POWER SUPPLY)

CN1641 CN641

1	+B	1
2	+B	2
3	E	3
4		4
5	9V	5
6	9V	6
7	AUDIO+	7
8	AUDIO+	8
9	E	9
10	STBY 5V	10
11	RELAY	11
12	DGC	12

+B
+B

9V
9V
AUDIO+
AUDIO+

STBY 5V

+B RECT D615, D643-645

T605 PIT

KV-29V35C/34V35C ONLY

SOFT START Q645 IC643 REG CONT

IC641 9V REG

AUDIO RECT D641

IC642 5V REG

CONVERTER Q601,602

T603 PRT

AC RECT D602

T601,602 LFT

CN602

| 2 | AC |
| 1 | AC WHT |

AC IN

CN601

3	DGC
2	N.C
1	DGC

RY601

DGC

DGC SW Q644

A BOARD IC1001 CXA1315M

A BOARD IC461 TDA2009A

A BOARD IC561 TDA8172

A BOARD IC1402 NJM4558M

NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.
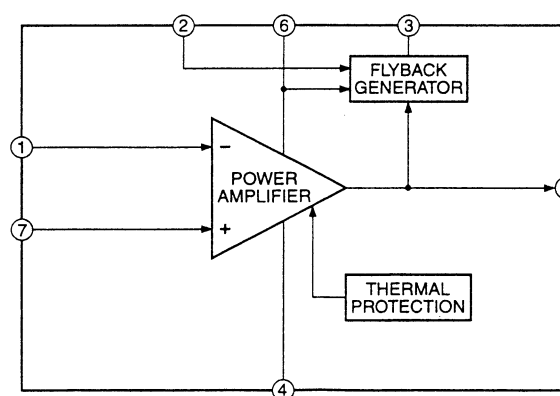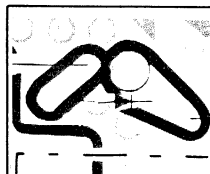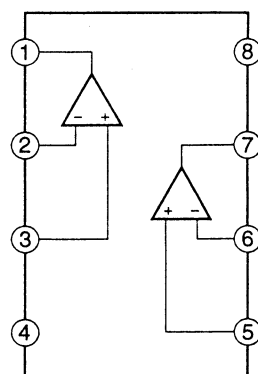
A BOARD * MARK LIST

	KV-27V20/29V20M	KV-27V25/29V65M	KV-27V35/29V35C/29V75M	KV-32V25	KV-32V35/34V35C
C360	#	0.47	0.47	0.47	0.47
C361	#	0.47	0.47	0.47	0.47
C362	#	0.47	0.47	0.47	0.47
C375	0.1 F:CHIP	#	#	#	#
C461	22 25V	22 25V	4.7	10	#
C476	1000 25V	1000 25V	JW (5)	1000 25V	JW (5)
C477	1000 25V	1000 25V	JW (5)	1000 25V	JW (5)
C520	0.0022 500V	0.0022 500V	0.0022 500V	0.001 500V	0.001 500V
C1501	#	#	#	0.12 200V :PP	0.12 200V :PP
CN461	4P WHT :S-MICRO	4P WHT :S-MICRO	7P WHT :S-MICRO	4P WHT :S-MICRO	7P WHT :S-MICRO
CN1101	#	20P :BTOB-P	20P :BTOB-P	20P :BTOB-P	20P :BTOB-P
CN1941	#	#	5P WHT :S-MICRO	#	5P WHT :S-MICRO
JR351	0 :CHIP	#	#	#	#
JR352	0 :CHIP	#	#	#	#
L461	10µH :FLR50	10µH :FLR50	18µH :FLR50	15µH :FLR50	#
Q357	#	#	2SD601A	#	2SD601A
R006	#	220	220	220	220
R008	#	220	220	220	220
R022	JW (7.5)	10k	10k	10k	10k
R027	#	1k :CHIP	1k :CHIP	1k :CHIP	1k :CHIP
R031	#	220	220	220	220
R040	#	220	220	220	220
R041	#	4.7k :CHIP	4.7k :CHIP	4.7k :CHIP	4.7k :CHIP
R042	#	4.7k :CHIP	4.7k :CHIP	4.7k :CHIP	4.7k :CHIP
R045	#	220	220	220	220
R050	#	220	220	220	220
R090	#	220 :CHIP	220 :CHIP	220 :CHIP	220 :CHIP
R358	#	220	220	220	220
R359	#	220	220	220	220
R360	#	220	220	220	220
R370	#	#	#	#	1k
R371	#	#	1.5k :CHIP	#	1.5k :CHIP
R386	#	1k :CHIP	1k :CHIP	1k :CHIP	1k :CHIP
R396	#	#	1k	#	1k
R466	2.2 :FPRD	2.2 :FPRD	1.5 :FPRD	2.2 :FPRD	#
R469	1.8k :CHIP	1.8k :CHIP	5.6k :CHIP	1.8k :CHIP	3.3k :CHIP
R472	1.8k :CHIP	1.8k :CHIP	5.6k :CHIP	1.8k :CHIP	3.3k :CHIP
R482	2.2k	2.2k	#	2.2k	#
R483	2.2k	2.2k	#	2.2k	#
R511	56 2W :RS	56 2W :RS	56 2W :RS	68 2W :RS	68 2W :RS
R512	82 2W :RS	82 2W :RS	82 2W :RS	100 2W :RS	100 2W :RS
R513	0.68 1W :RS	0.68 1W :RS	0.68 1W :RS	0.22 1W :RS	0.22 1W :RS
R530	20k :RN-CP	20k :RN-CP	20k :RN-CP	12k :RN-CP	12k :RN-CP
R531	24k :RN-CP	24k :RN-CP	24k :RN-CP	68k :RN-CP	68k :RN-CP
R546	30k :RN	30k :RN	30k :RN	22k :RN	22k :RN
R564	8.2	8.2	8.2	10	10

Mark : not mounted

A BOARD IC1401 BH3856FS

A BOARD

IC	
IC001	B-4
IC002	C-3
IC351	D-6
IC461	G-5
IC501	H-3
IC561	G-8
IC1001	D-9
IC1401	E-11
IC1402	E-12

TRANSISTOR	
Q001	A-6
Q002	C-5
Q003	I-2
Q004	I-2
Q010	D-4
Q011	D-4
Q012	D-4
Q013	E-4
Q014	D-4
Q015	D-4
Q016	D-3
Q017	A-5
Q301	D-8
Q302	D-8
Q303	D-8
Q354	E-8
Q356	C-5
Q357	E-5
Q358	E-8
Q461	G-4
Q462	G-4
Q501	J-4
Q502	J-9
Q503	H-3
Q511	I-3
Q512	H-5
Q561	F-7
Q562	F-7
Q563	H-3

Q1102	B-12
Q1103	A-10
Q1231	E-13
Q1232	E-13

DIODE	
D001	A-6
D002	D-3
D003	A-6
D004	C-3
D011	A-6
D013	C-5
D014	D-3
D015	C-4
D353	D-8
D356	E-3
D360	E-7
D362	E-8
D368	C-8
D462	F-1
D501	I-3
D502	I-9
D503	I-9
D504	J-8
D505	I-7
D506	I-6
D507	I-4
D515	H-5
D516	I-3
D518	I-4
D519	F-9
D520	H-3
D521	H-3
D530	F-10
D531	F-12
D534	G-9
D561	G-8
D562	G-3
D1102	B-10
D1103	B-12
D1248	E-12
D1263	D-10
D1264	E-10

Schematic diagram

← P board

SONY 1-659-743-21

P (P IN P) (EXCEPT KV-27V20/29V20M)

B-995538<U/C>-P..

4-2. CIRCUIT BOARDS LOCATION

WB
(KV-27V35/29V35C/29V75M/
32V35/34V35C ONLY)

UV
HV
SA

C
G
A

SC (EXCEPT KV-27V20/29V20M)
HS
(KV-32V25/32V35/
34V35C ONLY)
AV (EXCEPT KV-27V20/29V20M)
P (EXCEPT KV-27V20/29V20M)
K
(KV-27V35/29V35C/29V75M/
32V35/34V35C ONLY)
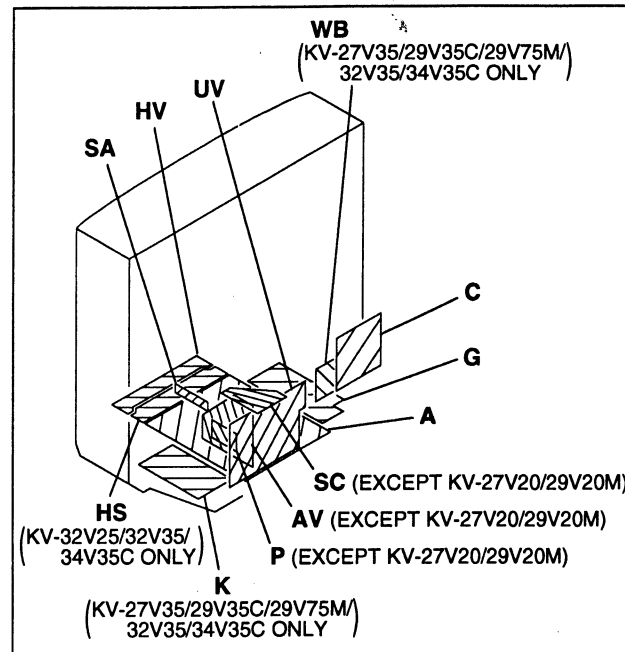
4-3. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note:
• All capacitors are in µF unless otherwise noted. pF: µµF 50WV or less are not indicated except for electrolytics and tantalums.
• All electrolytics are in 50V unless otherwise specified.
• All resistors are in ohms.
  kΩ = 1000Ω, MΩ = 1000kΩ
• Indication of resistance, which does not have one for rating electrical power, is as follows.

| Pitch: 5 mm |
| Rating electrical power: 1/4W |

• 1/4W in resistance, 1/10W and 1/8W in chip resistance.
• ▭▭ : nonflammable resistor.
• ▭∿▭ : fusible resistor.
• △ : internal component.
• ▭▭ : panel designation and adjustment for repair.
• All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
• The components identified by ⊠ in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
  Should replacement be required, replace only with the value originally used.
• When replacing components identified by ⊡, make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by ⊠ and repeat the adjustment untill the specified value is achieved.
  (Refer to R530 and R531 adjustment on Page 25, 26.)
• When replacing the part in below table, be sure to perform the related adjustment.

Part replaced (⊡)	Adjustment (⊠)
IC351, IC501, D519, D520, D521, C531, C532, R387, R529, R530, R531, R532, R533, R550, T503 ......A BOARD	R530, R531
IC643, R661 ....G BOARD	

• As to the voltage value shown by the semiconductors on the Schematic Diagram, see the another list.
• Readings are taken with a color-bar signal input.
• Readings are taken with a 10MΩ digital multimeter.
• Voltages are dc with respect to ground unless otherwise noted.
• Voltage variations may be noted due to normal production tolerances.
• All voltages are in V.
  S : Measurement impossibillity.
• ── ⊡V : B + line.
• --- ⊡V : B − line.
  (Actual measured value may be different).
• ⇨ : signal path. (RF)
• Circled numbers are waveform reference.

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFRAMMABLE CARBON
	: FUSE	NONFRAMMABLE FUSIBLE
	: RW	NONFRAMMABLE WIREWOUND
	: RS	NONFRAMMABLE METAL OXIDE
	: RB	NONFRAMMABLE CEMENT
	: ※	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

Note: The symbol ▣ display is on the component side.

The components identified by shading and mark △ are critical for safety. Replace only with part number specified.

The symbol ▣ indicate fast operating fuse. Replace only with fuse of same rating as marked.

Note: Les composants identifiés per un tramé et une marque △ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Le symbole ▣ indique une fusible a action rapide. Doit etre remplacee par une fusible de meme yaleur, comme maque.

P BOARD IC VOLTAGE LIST

	pin	volt	pin	volt
IC3301	1	GND	4	2.3
	2	NC	5	5.1
	3	GND	6	GND
	4	4.0	7	0.5
	5	6.8	8	0
	6	GND	9	0.6
	7	0.2	10	5.2
	8	0	11	2.1
	9	1.8	12	0.3
	10	0.3	13	NC
	11	8.2	14	-3.0
	12	8.2	15	GND
	13	3.9	16	GND
	14	3.4	17	0.7
	15	0	18	0.5
	16	2.8	19	0.2
	17	NC	20	0.3
	18	2.5	21	5.1
	19	3.5	22	5.2
	20	3.0	23	NC
	21	3.0	24	NC
	22	4.7	25	GND
	23	GND	26	NC
	24	2.9	27	GND
IC3302	IN	9.1	28	2.3
	OUT	5.3	29	5.2
IC3303	1	GND	30	2.6
	2	3.2	31	4.2
	3	2.6	32	2.5

All voltages are in V

P BOARD TRANSISTOR VOLTAGE LIST

	B	C	E
Q3301	5.3	9.1	4.7
Q3305	0.5	GND	1.2
Q3306	0.8	GND	1.4
Q3307	0.6	GND	1.3
Q3308	0	GND	2.8
Q3310	0	5.2	GND
Q3312	0	0	0.8
Q3313	0.8	0.4	GND

All voltages are in V

• P BOARD WAVEFORMS

① 4.6 Vp-p (V)
② 4.6 Vp-p (H)
③ 1.0 Vp-p (H)
④ 1.9 Vp-p (H)
⑤ 2.6 Vp-p (20.48MHz)
⑥ 5.6 Vp-p (V)
⑦ 6.6 Vp-p (H)
⑧ 3.2 Vp-p (V)
⑨ 3.1 Vp-p (H)

P [P IN P] (EXCEPT KV-27V20/29V20M)

– P BOARD – <Component Side>

<Conductor Side>
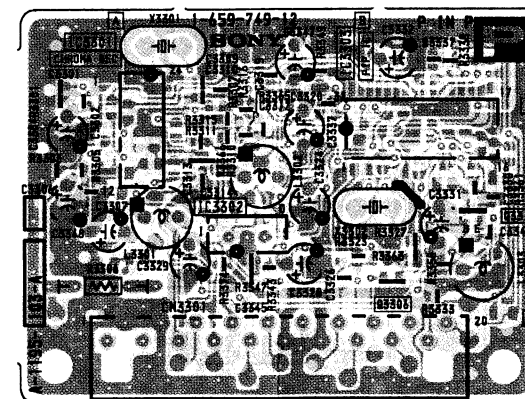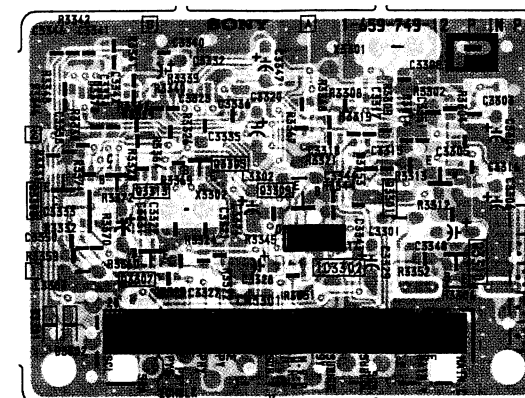
• ▭ : Pattern from the side which enables seeing.
• ▨ : Pattern of the rear side.

(EXCE...

| | | 1 | | 2 |

A
B
C
D
E
F
G
H
I
J

CN3301
20P
:BTOB-S
TO A BOARD
CN3001

MAIN.C	1
E	2
MAIN.Y	3
E	4
SUB.V	5
SVBCOL	6
SUB-HUE	7
9V	8
MAIN.V.P	9
MAIN.H.P	10
E	11
SUB.V.P	12
E	13
PY	14
PRY	15
PBY	16
PYS	17
2CH BLK	18
SØA	19
SCL	20

F

EXCEPT KV-27V20/29V20M

TU101
SUB TUNER

	CN101			CN1101		
MUTE		18	2-MUTE	18		O-2MUTE
AFT OUT		17	2-AFT	17		I-2AFT
ENABLE		11	2ENA	11		O-2LAT

H SYNC SEP
Q105

		16	2HP	16		I-2HSYNC
DET OUT		10	DAT	10	DAT	FROM A BOARD (1/2)
DE-EM OUT		9	CLK	9	CLK	

CN102

IC001 (2/2)
SYSTEM CONTROL

KV-27V35/29V35C/29V75M
/32V35/34V35C ONLY

KV-27V35/29V35/29V75M/32V35/34V35C ONLY

| | | 2 3 | N.C | 2 3 | | |

BUFF
Q1901,1902
Q1906,1908

IC1902
AMP

IN 1+ → OUT 1
IN 1-
IN 2-
IN 2+ → OUT 2
IN 3+ → OUT 3

IC1903
SW

OUT

IN

		1	M-BUS-POW	1		M-BUS
		4	SIRCS	4	SIRCS	
		15 19	E	15 19		

SW 0 SW 1

DAC 0

IC1901
D/A CONV.

SIRCS BUFF
Q1911,1912,1914

5V		8	STBY 5V	8	5V	TO / FROM A BOARD (1/2)
9V		12	9V	12	9V	
30V		20	30V	20	30V	
	SCL	6	SCL	6	SCL	
	SDA	7	SDA	7	SDA	

KV-27V35/29V35C/29V75M
/32V35/34V35C ONLY

CN103

ANT SW1
Q103

ANT SW2
Q104

T SW1	3		13	ANT-SW1	13		O-ANTAUX
9V	4	9V					
T SW2	1		14	ANT-SW2	14		O-2ANTAUX
E	2						

AV (SUB TUNER)

KV-27V35/29V35/29V75M/32V35/34V35C ONLY

FROM A BOARD (1/2) VM

	CN1941			CN2941		
VM	1	VM	1			

VM AMP
Q2943-2945

VM OUT
Q2965,2966

VM DRIVE
Q2946,2947

| | 3 | E | 3 | | | |
| | 5 | FBT 15V-P | 5 | | | |

NECK ASSY

VM

| 9V | 2 | 9V | 2 | 9V |
| +B | 4 | +B | 4 | +B |

WB (VELOCITY MOD. ROTATION,Q.P.)

IC1401
AUDIO PROCESS

IC461
AUDIO AMP

EXCEPT KV-27V35/29V35C
/29V75M/32V35
/34V35C

KV-27V35/29V35C/29V75M/32V35/34V35C ONLY

		CN461				CN1461				CN1462		
IN L	OUT L		4	L		L	4			4	L+	SP (L)
			3	E		E	3			3	L-	
IN R	OUT R		2	R		R	2			1	R+	SP (R)
SCL			1	E		E	1			2	R-	
SDA												

MUTE
Q461,462

IC1461
AUDIO AMP

FROM A BOARD (1/2)

MUTE FROM A BOARD (1/2)

MUTE DRIVE
Q1461

MUTE
Q1462

		7	MUTE	7		
AUDIO +B		5	AUDIO +B	5	AUDIO +B	
		6	AUDIO +B	6		

IC1402
AUDIO BUFF

K (AUDIO AMP)

TO A BOARD (1/2)

AUDIO PROCESS,AUDIO AMP,
SYSTEM CONTROL)

EXCEPT KV-27V20/29V20

KV-32V35/34V35C ONLY

J231

VIDEO1 IN
S VIDEO

V
L
R

V1-C
V1-Y
SW1   VIDEO 1
V1-V
V1-L
V1-R   EXCEPT
            KV-27V20/29V20M

V OUT1
Y IN
C IN
SUB V
SUB L
SUB R

CM302
COMB FILTER
V IN
Y OUT
C OUT

CN261
11   2-DET
9   2-L
8   2-R
4   N.C
7
3   M-IN 1
2   M-IN 2
10   E
1   M-OUT

CN104   CN105
11   2-DET   1
9   3
8   4
5   N.C
8
3   M-IN 1   9
10   M-IN 2   10
2   E   2
11   M-OUT   11

CN102
2-DET   1
2-L   3
2-R
N.C
M-IN 1
M-IN 2
E
M-OUT

J232

VIDEO3 IN

V
L
R

V3-V
V3-L   VIDEO 3
V3-R

CN262

FRONT-Y   1
FRONT-C   4
FRONT-SW 5
FRONT-V   3
FRONT-L   6
FRONT-R   7

V2-Y
V2-C
SW2   VIDEO 2
V2-V
V2-L
V2-R

IC261
A/V SW

CM301
COMB FILTER
Y OUT
C OUT
V IN

EXCEPT
KV-32V35/34V35C

SC

KV-27V35/29V35C/29V7
/32V35/34V35C ONLY

CN103
ANT SW1   3
9V   4
ANT SW2   1
E   2   9V

TO
ANT SW

J902
M BUS
OUT

J904
M BUS
IN 2

J903
M BUS
IN 1

TV-V
TV-L   1
TV-R   1

MAIN V
MAIN L   TUNER
MAIN R

A
TO/FROM
A BOARD (1/2)
CN270

MAIN-Y   15
MAIN-C   17

Y OUT1
C OUT1

SUB-V   15
E   2
          10
          16
9V   1   9V

V OUT2

P.MUTE   16
CH BLK   13
TV- BLK   14
N.C   2

AUDIO BUFF
IC152   IC151
        IC153

IC154
AUDIO SW

MUTE
Q233,234

L OUT 1

L OUT 2

IC152   IC151
        IC153

LOGIC LEV
CONV.

CN264   CN271
4   MAIN-L
6   CONT.S-STEREO 6
7   CONT-SRS   7
5   MAIN-R   5
8   NC
10   SCL   10
11   SDA   11
9   AUDIO 12V   9   12V
1   VAR-L   1
2   VAR-R   2
3   E

CONT-S
STEREO
CONT
SRS
FROM
A BOARD
(1/2)

IC1401
AUDIO PROCESS
IN L   OUT L
IN R   OUT R
SCL
SDA

FROM
A BOARD
(1/2)

IC1402
AUDIO BUFF

J235

TV OUT

V
L
R

KV-27V35/29V35C/29V75M
/32V35/34V35C ONLY

MUTE
Q232,235,236

MUTE DRIVE
Q243

SCLK
SDATA

J233

VARIABLE
OUT

L
R

J234

MONITOR
OUT

V
L
R

MUTE
Q231

AR   TO
AL   A BOARD (1/2)

UV (VIDEO/AUDIO OUT,
     A/V SW, COMB FILTER)

A (2/2) (AUDIO PROCESS,AUDIO AMP,
          SYSTEM CONTROL)

A BOARD IC VOLTAGE LIST

pin	volt	pin	volt	pin	volt	pin	volt
IC001 1	0	52	0	31	3.1	6	0.6
2	0	53	4.9	32	3.2	7	3.8
3	0	54	4.9	33	3.7	8	GND
4	0	55	4.9	34	4.5	9	0
5	0	56	5.0	35	4.8	10	0
6	5.0	57	5.0	36	8.7	11	GND
7	0	58	0	37	3.4	12	GND
8	0	59	3.7	38	3.6	13	GND
9	0.8	60	0.5	39	4.1	14	5.0
10	0	61	0	40	4.3	15	5.0
11	0	62	4.8	41	2.5	16	8.7
12	5.0	63	0	42	GND (IC1401)	IC1401 1	GND
13	4.2	64	4.6	43	2.8	2	4.3
14	1.3	IC002 1	GND	44	2.8	3	4.3
15	5.0	2	GND	45	4.1	4	4.3
16	GND	3	GND	46	3.3	5	0
17	2.6	4	GND	47	6.0	6	4.3
18	*	5	5.0	48	0.4	7	4.3
19	3.1	6	5.0	49	0	8	4.4
20	5.0	7	GND	50	0	9	4.4
21	2.0	8	5.0	IC461 1	1.5	10	4.4
22	2.0	IC351 1	NC	2	3.5	11	8.7
23	0	2	NC	3	12.2	12	3.8
24	0	3	2.2	4	3.5	13	4.9
25	GND	4	5.9	5	1.5	14	0
26	0	5	4.1	6	0	15	5.0
27	1.6	6	4.6	7	0	16	0
28	2.4	7	4.3	8	0.3	17	4.0
29	5.0	8	9.2	9	22.1	18	4.0
30	0.2	9	5.2	10	0.3	19	2.0
31	0	10	5.2	11	0	20	2.0
32	0	11	0.3	IC501 1	3.4	21	0
33	0	12	6.6	2	7.9	22	0
34	0	13	6.3	3	8.3	23	4.3
35	0	14	6.3	4	-16.5	24	4.3
36	0	15	GND	5	2.3	25	4.3
37	0	16	0	6	2.8	26	4.3
38	0	17	0	7	-16.3	27	4.3
39	0	18	5.2	8	12.6	28	4.3
40	0	19	5.2	IC561 1	1.6	29	0
41	0	20	5.2	2	12.6	30	4.3
42	0	21	4.0	3	-14.5	31	4.3
43	0	22	2.2	4	-16.6	32	5.6
44	3.0	23	5.1	5	0 (IC1402)	IC1402 1	4.2
45	3.0	24	1.8	6	13.4	2	4.3
46	5.0	25	4.5	7	1.6	3	4.3
47	5.0	26	2.3 (IC1001)	IC1001 1	0	4	GND
48	GND	27	2.0	2	0	5	4.3
49	GND	28	1.7	3	3.2	6	4.3
50	5.0	29	6.8	4	2.8	7	4.3
51	0	30	0.7	5	0.5	8	8.7

All voltages are in V
*: Can not measured

A BOARD TRANSISTOR VOLTAGE LIST

	B	C	E
Q001	5.2	0.9	5.0
Q002	4.8	5.0	4.1
Q003	-0.4	4.2	GND
Q004	0.8	GND	1.3
Q010	0	8.7	0
Q011	0	8.7	0
Q012	0	8.7	0
Q013	-0.2	0	GND
Q014	-0.2	0	GND
Q015	-0.2	0	GND
Q016	5.8	8.7	5.1
Q017	4.4	5.0	5.0
Q301	4.0	GND	2.2
Q302	4.0	GND	1.8
Q303	4.0	GND	2.0
Q354	0.2	GND	-0.5
Q356	4.9	GND	5.6
Q357	3.6	8.7	0
Q358	1.9	8.7	2.0
Q461	0.8	0	0
Q462	20.0	20.6	20.7
Q501	-0.7	105.6	GND
Q502	-0.4	136.1	0
Q503	0	8.3	GND
Q511	-16.3	-13.0	-16.5
Q512	-16.9	-19.1	-16.0
Q563	134.3	0.4	134.9
Q1102	6.0	9.2	5.3
Q1103	0	2.5	GND
Q1231	0	0	GND
Q1232	0	0	GND

All voltages are in V

• A BOARD WAVEFORMS

No.	Value
1	4.5 Vp-p (H)
2	5.3 Vp-p (H)
3	4.5 Vp-p (V)
4	3.8 Vp-p (12MHz)
5	3.9 Vp-p (V)
6	1.9 Vp-p (H)
7	1.9 Vp-p (H)
8	4.5 Vp-p (H)
9	3.3 Vp-p (H)
10	3.6 Vp-p (H)
11	5.5 Vp-p (V)
12	1.3 Vp-p (V)
13	0.6 Vp-p (V)
14	5.3 Vp-p (H)
15	6.3 Vp-p (H)
16	1.7 Vp-p (H)
17	1.7 Vp-p (H)
18	2.4 Vp-p (H)
19	226 Vp-p (H)
20	49.0 Vp-p (H)
21	1070 Vp-p (H)
22	294 Vp-p (H)
23	1.4 Vp-p (V)
24	57.0 Vp-p (V)
25	2.6 Vp-p (V)
26	2.4 Vp-p (H)
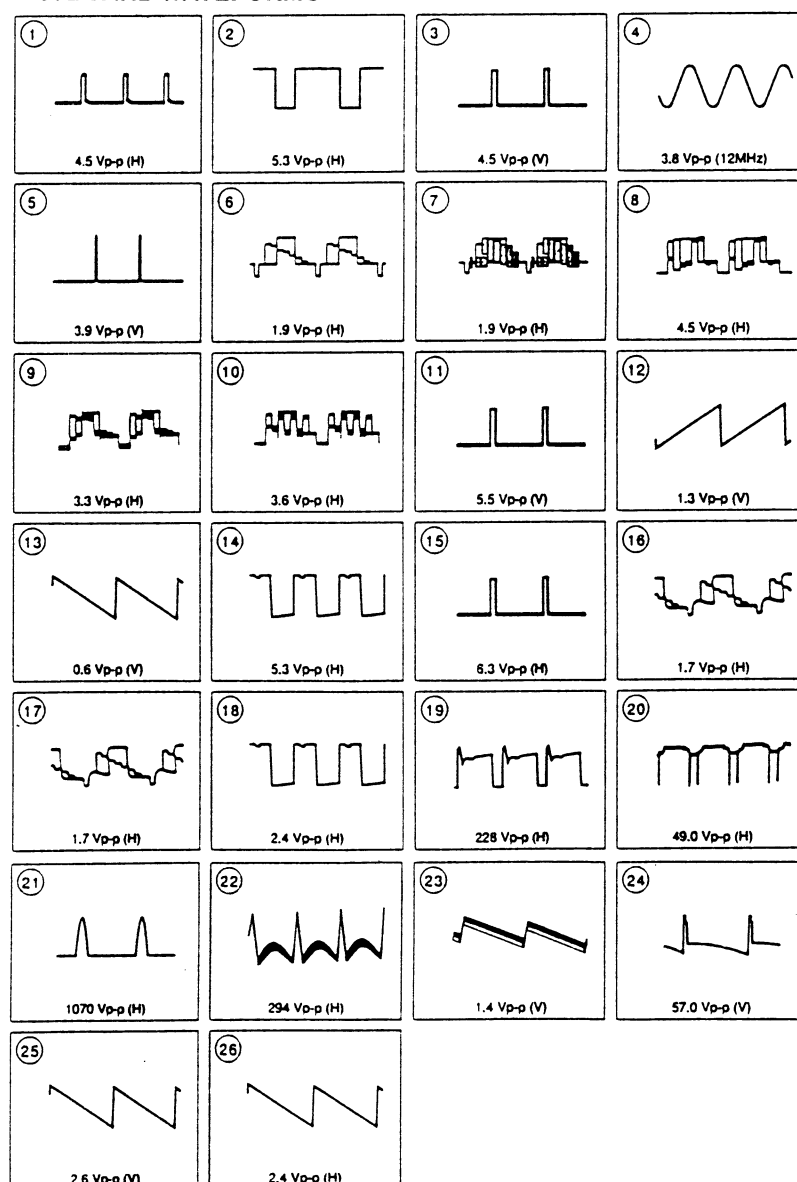
UV BOARD * MARK LIST

	KV-27V20/29V20M	KV-27V25/29V65M	KV-32V25	KV-27V35/29V35C/29V75M	KV-32V35/34V35C
C236	#	0.047 :MPS	0.047 :MPS	0.047 :MPS	0.047 :MPS
C237	#	1		1	1
C238	#				
C245	#		#	470 25V	470 25V
C246	#		#	0.47	0.47
C247	#		#	0.47	0.47
C261	#		#	0.047 :MPS	0.047 :MPS
C264	100 16V	100 16V	100 16V	470 25V	470 25V
C265	47 16V :BP	47 16V :BP	47 25V	47 16V :BP	47 25V
C266	#			1	1
C267	#			1	1
C301	100 16V	100 16V	100 16V	470 16V	470 16V
CM301	1-473-548- 11	1-473-548- 11	1-467-554- 21	1-473-548- 11	
CM302	#	#	#	#	1-467-656- 11
CN261	11P :BTOB-S	11P :BTOB-S	11P :BTOB-S	11P :BTOB-S	11P :BTOB-S
D239	#	#	#	#	#
D240	#	MTZJ-T-77-10B	MTZJ-T-77-10B	MTZJ-T-77-10B	MTZJ-T-77-10B
D241	#	MTZJ-T-77-10B	MTZJ-T-77-10B	MTZJ-T-77-10B	MTZJ-T-77-10B
D242	#	MTZJ-T-77-10B	MTZJ-T-77-10B	MTZJ-T-77-10B	MTZJ-T-77-10B
D245	#			MTZJ-T-77-3.3	MTZJ-T-77-3.3
D246	#			MTZJ-T-77-3.3	MTZJ-T-77-3.3
D902	#	MTZJ-T-77-6.2	MTZJ-T-77-6.2	MTZJ-T-77-6.2	MTZJ-T-77-6.2
D909	#	MTZJ-T-77-6.2	MTZJ-T-77-6.2	MTZJ-T-77-6.2	MTZJ-T-77-6.2
D910	#	MTZJ-T-77-6.2	MTZJ-T-77-6.2	MTZJ-T-77-6.2	MTZJ-T-77-6.2
IC261	MM1311AD	MM1313AD	MM1313AD	MM1313AD	MM1313AD
J232	#	1-750-517- 11 3P	1-750-517- 11 3P	1-750-517- 11 3P	1-750-517- 11 3P
J235	#			1-750-517- 11 3P	1-750-517- 11 3P
J902	SIRCS JACK	SIRCS JACK	SIRCS JACK	SIRCS JACK	SIRCS JACK
J903	SIRCS JACK	SIRCS JACK	SIRCS JACK	SIRCS JACK	SIRCS JACK
J904	SIRCS JACK	SIRCS JACK	SIRCS JACK	SIRCS JACK	SIRCS JACK
JR233	0 :CHIP	#	#	#	#
JR261	0 :CHIP	#	#	#	#
JR262	0 :CHIP	#	#	#	#
JW226	7.5MM	7.5MM	7.5MM	4.7	4.7
Q232	#	#	#	2SD601A	2SD601A
Q235	#	#	#	2SD601A	2SD601A
Q236	#	#	#	2SD601A	2SD601A
Q240	#	#	#	2SB709A	2SB709A
Q241	#	#	#	2SB709A	2SB709A
Q242	#	#	#	2SB709A	2SB709A
Q261	#	#	#	2SD601A	2SD601A
R206	#	#	#	#	#
R207	#	#	#	0 :CHIP	0 :CHIP
R208	#	#	#	1k :CHIP	1k :CHIP
R209	#	#	#	6.8k :CHIP	6.8k :CHIP
R210	#	#	#	6.8k :CHIP	6.8k :CHIP
R219	#	#	#	4.7k :CHIP	4.7k :CHIP
R220	#	#	#	4.7k :CHIP	4.7k :CHIP
R221	#	#	#	470	470
R222	#	#	#	100 :CHIP	100 :CHIP
R223	#	#	#	100 :CHIP	100 :CHIP
R224	#	#	#	100 :CHIP	100 :CHIP
R229	#	75 :CHIP	75 :CHIP	75 :CHIP	75 :CHIP
R240	#	470k :CHIP	470k :CHIP	470k :CHIP	470k :CHIP
R241	#	4.7k :CHIP	4.7k :CHIP	4.7k :CHIP	4.7k :CHIP
R242	#	470k :CHIP	470k :CHIP	470k :CHIP	470k :CHIP
R243	#	4.7k :CHIP	4.7k :CHIP	4.7k :CHIP	4.7k :CHIP
R252	#	#	#	56 :CHIP	56 :CHIP
R253	#	#	#	470k :CHIP	470k :CHIP
R254	#	#	#	470k :CHIP	470k :CHIP
R255	#	#	#	470k :CHIP	470k :CHIP
R258	#	#	#	6.8k :CHIP	6.8k :CHIP
R261	#	22 :CHIP	22 :CHIP	22 :CHIP	22 :CHIP
R266	#	#	#	560 :CHIP	560 :CHIP
R267	#	#	#	680	680
R275	#	#	#	4.7k	4.7k
R276	#	#	#	4.7k	4.7k
R278	#	#	#	470	470
R281	#	220 :CHIP	220 :CHIP	220 :CHIP	220 :CHIP
R291	#	100 :CHIP	100 :CHIP	100 :CHIP	100 :CHIP
R292	100 :CHIP	#	#	#	#
R293	#	100 :CHIP	100 :CHIP	100 :CHIP	100 :CHIP
R902	#	100 :FPRD	100 :FPRD	100 :FPRD	100 :FPRD
R919	#	0 :CHIP	0 :CHIP	0 :CHIP	0 :CHIP
R920	#	100 :FPRD	100 :FPRD	100 :FPRD	100 :FPRD
R921	#	100 :FPRD	100 :FPRD	100 :FPRD	100 :FPRD
R922	#	1k :CHIP	1k :CHIP	1k :CHIP	1k :CHIP
R923	#	1k :CHIP	1k :CHIP	1k :CHIP	1k :CHIP
R924	#	1k :CHIP	1k :CHIP	1k :CHIP	1k :CHIP

Mark : not mounted

UV BOARD TRANSISTOR VOLTAGE LIST

	B	C	E
Q231	0	5.7	GND
Q232	0.2	4.9	GND
Q233	0	0	GND
Q234	0	0	GND
Q235	0	0	GND
Q236	0	0	GND
Q237	5.0	GND	5.7
Q238	4.1	GND	4.7
Q239	4.1	GND	4.7
Q240	4.4	GND	5.0
Q241	4.4	GND	5.0
Q242	4.3	GND	4.9
Q243	0.2	GND	0.9
Q261	4.6	8.7	4.0
Q262	4.9	5.7	4.2
Q263	3.4	GND	4.1
Q265	4.3	GND	4.9

All voltages are in V

UV BOARD IC VOLTAGE LIST

IC	pin	volt	pin	volt
IC151	1	4.4	12	4.4
	2	4.4	13	4.4
	3	4.4	14	4.4
	4	8.7	15	4.4
	5	4.4	16	8.7
	6	4.4	IC261 1	4.8
	7	4.4	2	4.2
	8	4.4	3	4.8
	9	4.4	4	4.2
	10	4.4	5	4.8
	11	GND	6	4.5
	12	4.4	7	4.8
	13	4.4	8	4.2
	14	4.4	9	4.8
IC152	1	4.4	10	4.2
	2	4.4	11	4.9
	3	4.4	12	5.8
	4	8.7	13	4.8
	5	4.4	14	4.2
	6	4.4	15	0
	7	4.4	16	4.2
	8	4.4	17	5.8
	9	4.4	18	NC
	10	4.4	19	5.0
	11	GND	20	4.9
	12	4.4	21	GND
	13	4.4	22	NC
	14	4.4	23	6.7
IC153	1	4.4	24	NC
	2	4.4	25	4.2
	3	4.4	26	4.2
	4	GND	27	6.1
	5	4.4	28	NC
	6	4.4	29	4.8
	7	4.4	30	GND
	8	8.7	31	5.6
IC154	1	4.4	32	4.1
	2	4.4	33	4.1
	3	4.4	34	5.0
	4	4.4	35	NC
	5	4.4	36	4.2
	6	GND	37	8.7
	7	GND	38	8.7
	8	GND	39	3.4
	9	0.5	40	4.2
	10	4.4	41	4.2
	11	4.4	42	4.2

All voltages are in V

UV BOARD   IC261 MM1311AD (KV-27V20/29V20M ONLY)

- Vcc 28
- MTV-V 31, V1-V 1, V2-V 7, V3-V 13 → 6dB → V OUT 25
- V1-Y 3, V2-Y 9 → 6dB; Y IN 22, Y OUT 27
- V1-C 5, V2-C 11 → 6dB, −6dB; C IN 20, C OUT 29
- MTV-L 32, V1-L 2, V2-L 8, V3-L 14 → −6dB → L OUT 24
- MTV-R 30, V1-R 4, V2-R 10, V3-R 15 → 6dB → R OUT 23
- BIAS 26 → BIAS
- SCL 18, SDA 17 → I^2C LOGIC → S1 6, S2 12, ADDRESS 16, MUTE 19
- GND 21

UV BOARD   IC261 MM1313AD (EXCEPT KV-27V20/29V20M)

- Vcc 38
- MTV-V 41, V1-V 1, V2-V 7, V3-V 13, STV-V 27 → 6dB → V OUT1 34, V OUT2 23
- V1-Y 3, V2-Y 9 → 0dB, 0dB, 6dB; Y IN1 31, Y OUT1 37
- V1-C 5, V2-C 11 → 6dB, −6dB; C IN1 29, C OUT1 39
- MTV-L 42, V1-L 2, V2-L 8, V3-L 14, STV-L 25 → L OUT1 33, L OUT2 22
- MTV-R 40, V1-R 4, V2-R 10, V3-R 15, STV-R 36 → R OUT1 32, R OUT2 24
- BIAS 35 → BIAS, S1 6, S2 12
- SCL 19, SDA 20 → I^2C LOGIC → ADDRESS 21, MUTE 28
- GND 30

UV BOARD   IC154 CD4052BCN

- VDD 16
- X CH IN/OUT 3 (11), 2 (15), 1 (14), 0 (12)
- A 10, B 9, INH 6 → LOGIC LEVEL CONVERSION → BINARY TO 1 OF 4 DECODER WITH INHIBIT → TG
- COMMON X OUT/IN 13, COMMON Y OUT/IN 3
- Y CH IN/OUT 0 (1), 1 (5), 2 (2), 3 (4)
- VSS 8, VEE 7

9 TERMINAL BLOCK — S-VIDEO
PIN JACK BLOCK — VIDEO3
PIN JACK BLOCK — VARI OR FIX OUT
PIN JACK BLOCK — MONITOR OUT
PIN JACK BLOCK — TV OUT
M-BUS IN1
M-BUS IN2
SIRCS IN MBUS OUT
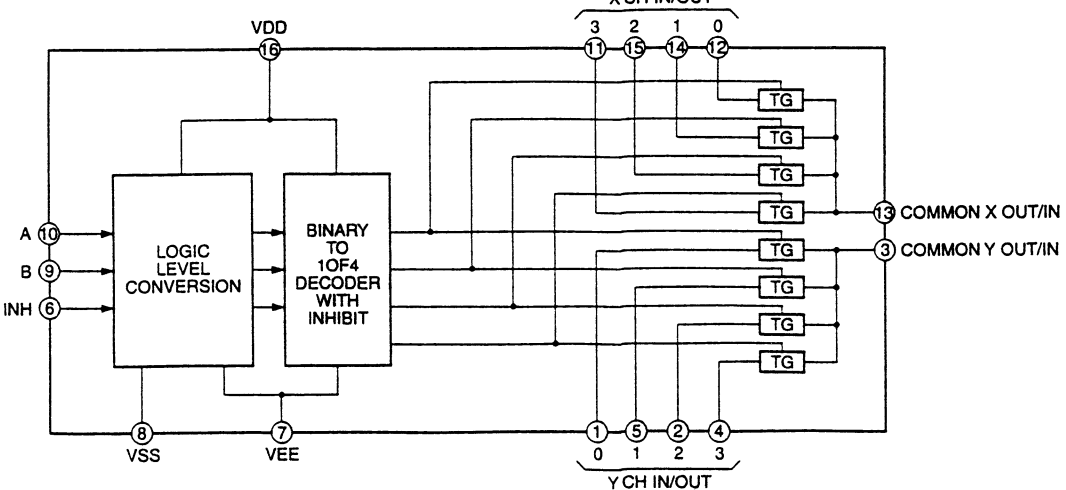
Schematic diagram
← A board

Schematic diagram
UV board →

IC261 MM1311AD (KV-27V20/29V20M ONLY)

IC261 MM1313AD (EXCEPT KV-27V20/29V20M)

TO SC BOARD
CN104

CN261
:BTOB-5

Q261
BUFF
C261

CK501
COMB FILTER

CN302
COMB FILTER

VIDEO

TV VIDEO

TV VIDEO

TV VIDEO

Q262
2SB601A
BUFFER

Q263
2SB709A
BUFFER

Q245
2SB709A
BUFFER

AUDIO L

AUDIO R

TV VIDEO

TV AUDIO L

IC151
NJM2902M
AUDIO BUFF

IC153
NJM4558M-TE2
AUDIO BUFF

AUDIO L

AUDIO R

AUDIO L

AUDIO R

Y HALF

IC152
NJM2902M
AUDIO BUFF

IC154
CD4052BCN
AUDIO SW

MINUS L

MINUS R

AUDIO L

AUDIO R

INHIBIT

VEE SEL

VSS SEL

TV VIDEO

TV AUDIO R
TV VIDEO

TV AUDIO L

TV AUDIO L

TV AUDIO R

Q243
2SB709A
BLK-BUFF

TV AUDIO R

TV AUDIO L

TV VIDEO

AUDIO L

AUDIO R

UV (A/V SW. EXT IN/OUT,
AUDIO SW. AUDIO BUFF)

B-535530<U/C>-UV.

CN262
:BTOB-5

FRONT-Y
E
FRONT-C
FRONT-S SW
FRONT-R
9V
TV-V
E
TV-L
TV-R
CHBLK
TV-BLK
MAIN-Y
MAIN-C
E
P.MUTE
SUB-V
STBY 5V

TO A BOARD
CN270

VAR-L
VAR-R
E
MAIN-L
MAIN-R
CONT-B.STEREO
STRCS
AUDIO 12V
SCL
SDA

TO A BOARD
CN271

CN264
:BTOB-5

• UV BOARD WAVEFORMS

① 2.0 Vp-p (H)
② 1.0 Vp-p (H)
③ 1.8 Vp-p (H)
④ 1.8 Vp-p (H)
⑤ 1.8 Vp-p (H)
⑥ 1.8 Vp-p (H)
⑦ 1.8 Vp-p (H)
⑧ 1.0 Vp-p (H)

WB [VELOCITY MOD.] (KV-27V35/29V35C/29V75M/32V35/34V35C ONLY)

SC (EXCEPT KV-27V20/29V20M)

– UV BOARD –

– WB BOARD –

– SC BOARD –

UV BOARD

IC	
IC151	C-3
IC152	C-4
IC153	C-2
IC154	C-2
IC261	F-4

TRANSISTOR	
Q231	G-4
Q232	H-3
Q233	G-5
Q234	G-5
Q235	H-3
Q236	H-3
Q237	G-3
Q238	G-3
Q239	G-4
Q240	G-2
Q241	G-3
Q242	G-3
Q243	E-6
Q261	F-1
Q262	G-1
Q263	F-2
Q265	F-2

DIODE	
D231	E-2
D232	E-2
D233	E-2
D234	F-2
D235	E-2
D236	E-3
D237	G-6
D238	G-6
D239	G-6
D240	E-3
D241	E-3
D242	E-4
D243	G-6
D244	H-6
D245	G-6
D246	G-6
D264	I-6
D265	I-6
D902	I-5
D909	E-5
D910	E-5

1-659-746-11
171156311

1-659-748-11   171156411

1-659-756-11
171156411

(KV-27V35/29V35C/29V75M/32V35/34V35C ONLY)

NECK ASSY ⚠

VM OUT 1
9V 2
E 3
+B 4
FBT 15V-P 5

CN2941
5P
WHT
:S-MICRO

TO A BOARD
CN1941

L2944
JW (S)

9V

C2941
470
16V

R2949
1k
:CHIP

R2955
820
:CHIP

Q2965
2SD601A
BUFFER

Q2943
2SD601A
BUFFER

R2943
100
:CHIP

R2950
1k
:CHIP

R2956 R2957
0   10k
:CHIP :CHIP

C2975
220p
B:CHIP

R2979
47
:CHIP

C2944
0.01
B:CHIP

R2951
1k
:CHIP

Q2944
2SD601A
AMP

R2958
0
:CHIP

Q2966
2SB709A
BUFFER

Q2941
1SS133
TEMP-CORR

R2953
68
:CHIP

Q2945
2SD601A
AMP

C2946
100
16V

R2948
1k
:CHIP

R2952
330
:CHIP

R2959
68
:CHIP
R2954:CHIP
220

+B

L2942
JW (S)

C2950
100
16V

C2951
33
160V

Q2946
2SA1837
VM.DRIVE.1

R4945
180
3W
:RS

C2952
0.1
200V
:PT

Q2947
2SC4793
VM.DRIVE.2

R4949
1.8
:FPRØ

R4950
39
:FPRØ

C2949
0.0047
500V
E

R4941
39
1/2W
:FPRØ

R4942
1.8
:FPRØ

R4946
1k :FPRØ

Q2946
MTZJ-T-77-39
ØC.BIAS

Q2947
MTZJ-T-77-39
ØC.BIAS

C2958
100
16V

R4943
560
:FPRØ

C2953
0.047
200V
:PT

R4944
18k

R4947
18k

C2957
0.047
200V
:PT

R4948
560

C2954
0.001
:PT

C2955
2.2
160V

C2956
0.001
:PT

E
VM

WB (VELOCITY MOD)

(KV-27V35/29V35C/29V75M/32V35/34V35C ONLY)

B-SS5530<U/C>-WB.

(EXCEPT KV-27V20/29V20M)

CN104
11P
:BTOB-P

(EXCEPT KV-27V20/29V20M)

CN105
11P
:BTOB-P

M-OUT	1		11	M-OUT
M-IN2	2		10	M-IN2
M-IN1	3		9	M-IN1
N.C	4		8	N.C
N.C	5		7	N.C
N.C	6		6	N.C
N.C	7		5	N.C
2-R	8		4	2-R
2-L	9		3	2-L
E	10		2	E
2-DET	11		1	2-DET

TO UV BOARD
CN261

TO AV BOARD
CN102

SC

B-SS5530<U/C>-SC.

WB BOARD TRANSISTOR VOLTAGE LIST

	B	C	E
Q2943	3.1	9.0	2.4
Q2944	2.7	9.0	2.1
Q2945	2.8	5.8	2.1
Q2946	134.0	67.4	135.0
Q2947	1.8	67.4	0.5
Q2965	5.8	9.0	5.9
Q2966	5.8	GND	5.9

All voltages are in V

HV (FRONT VIDEO2, SIRCS, SWITCH)

TO HS BOARD
CN2102

FRONT VIDEO2

S-VIDEO

FRONT Y 8
E 7
FRONT V 6
FRONT C 5
FRONT-SW 4
FRONT L 3
FRONT R 2
E 1

CN2231
*
:S-MICRO

TO A BOARD
CN1231

TO HS BOARD
CN2102

STBY 5V

IC2003
SBX1790-51
DETECTOR

Q2009
2SB709A
I-V.5W

Q2008
2SB709A
BUFFER

STEREO
LED

D2006
TIMER
LED

IC2004
IS474
LUMISPONDER

TO HS BOARD
CN2101

FRONT Y
E
FRONT V
FRONT C
FRONT-SW
FRONT L
FRONT R
E

CN2102
8P
:S-MICRO
TO A BOARD
CN1231

1	SIRCS
2	STBY 5V
3	E
4	TIMER LED
5	ST LED
6	LUMIPON
7	POWER ON
8	E
9	KEY

TO A BOARD
CN1001

CN2001
*
:S-MICRO

S2007   R2063   R2062   R2061   R2060   R2059
POWER   SET UP   TV/V   CH+   CH-   VOL+   VOL-
S2006   S2005   S2004   S2003   S2002   S2001

3	KEY
2	E
1	POWER ON

CN2002
*
:S-MICRO

TO C.T PANEL

B-SS5530<U/C>-HV.

TO HS BOARD
CN2101

HV BOARD TRANSISTOR VOLTAGE LIST

	B	C	E
Q2008	4.5	5.0	1.5
Q2009	0.4	GND	4.5

All voltages are in V

HV BOARD IC VOLTAGE LIST

	pin	volt
IC2003	1	5.0
	2	5.0
	3	GND
IC2004	1	5.0
	2	0.5
	3	GND
	4	NC

All voltages are in V

HV BOARD

	KV-
C2231	#
C2232	#
CN2001	9P
CN2002	
CN2231	8P
D2231	#
D2232	#
D2233	#
J2232	#
JW2001	#
JW2002	#
JW2003	#
JW2004	#
JW2005	#
JW2006	#
JW2007	#
JW2008	#
JW2231	#
JW2232	#
JW2233	#
JW2234	#
JW2235	#
JW2236	#
JW2237	#
JW2238	#
R2059	820
R2060	1k
R2061	1.8
R2062	4.7
R2063	10k
R2231	#
R2232	#
R2233	#
S2001	TA
S2002	TA
S2003	TA
S2004	TA
S2005	TA
S2006	TA
S2007	TA

HV [FRONT VIDEO 2, SIRCS, SWITCH]   **HS** [SW] (KV-32V25/32V35/34V35C ONLY)

(KV-32V25/32V35/34V35C ONLY)

(KV-32V25/32V35/34V35C ONLY)

FRONT Y	1	①
E	2	②
FRONT V	3	③
FRONT C	4	④
FRONT-SW	5	⑤
FRONT L	6	⑥
FRONT R	7	⑦
E	8	⑧

TO HV BOARD

CN2102
8P
:S-MICRO
TO A BOARD
CN1231

CN2101
9P
WHT
:S-MICRO
TO A BOARD
CN1001

TO HV BOARD

①	1	SIRCS
②	2	STBY 5V
③	3	E
④	4	TIMER LED
⑤	5	ST LED
⑥	6	LUMIPON
⑦	7	POWER ON
⑧	8	N.C
⑨	9	KEY

HS (SW)

B-SS5530<U/C>-HS.

BOARD
101

JARD
01

RO

J

ANEL

– HV BOARD –

– HS BOARD –

HV BOARD * MARK LIST

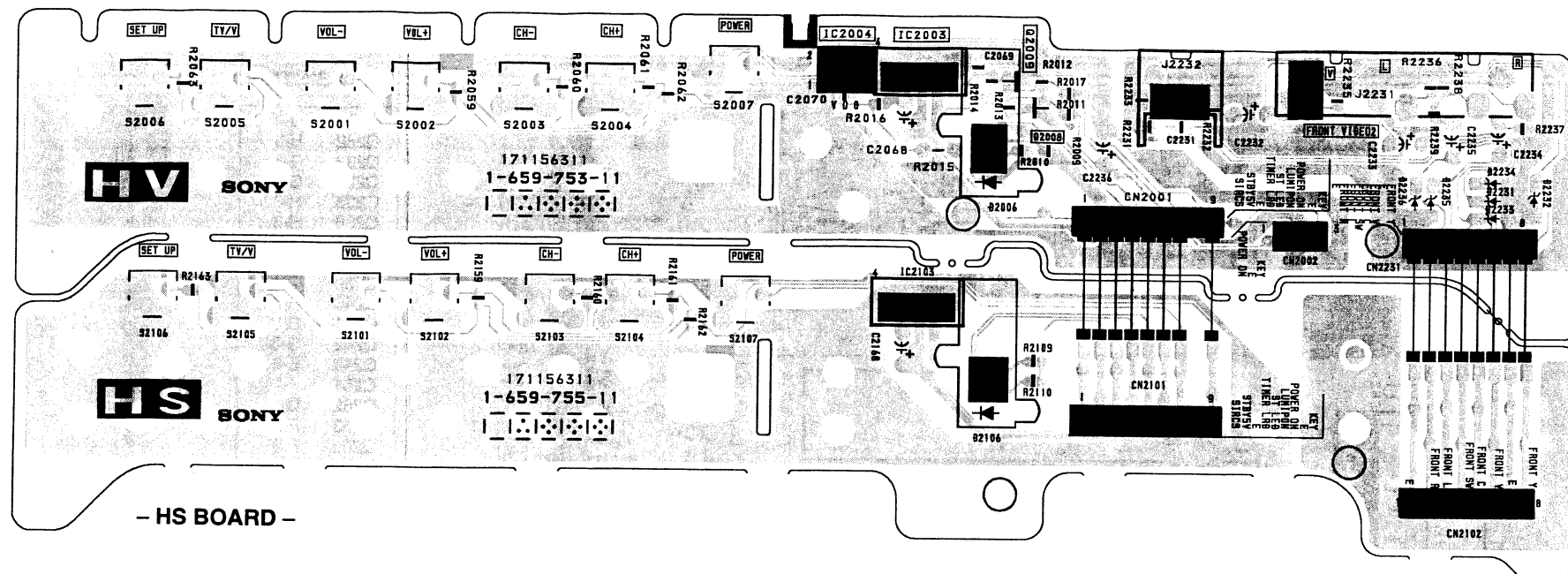|	KV-27V20/27V25/29V20M/29V65M	KV-27V35/29V35C/29V75M	KV-32V25(US)/32V35/34V35C	KV-32V25 (CND)
C2231	#	#	#	0.01 F:CHIP
C2232	#	#	#	0.047 :MPS
CN2001	9P WHT-L :S-MICRO	9P WHT-L :S-MICRO	#	#
CN2002	#	3P WHT-L :S-MICRO	#	3P WHT-L :S-MICRO
CN2231	8P WHT-L :S-MICRO	8P WHT-L :S-MICRO	#	#
D2231	#	#	#	MTZJ-T-77-10
D2232	#	#	#	MTZJ-T-77-10
D2233	#	#	#	MTZJ-T-77-10
J2232	#	#	#	S-JACK
JW2001	#	#	20MM	20MM
JW2002	#	#	20MM	20MM
JW2003	#	#	20MM	20MM
JW2004	#	#	20MM	20MM
JW2005	#	#	20MM	20MM
JW2006	#	#	20MM	20MM
JW2007	#	#	20MM	20MM
JW2008	#	#	20MM	20MM
JW2231	#	#	20MM	20MM
JW2232	#	#	20MM	20MM
JW2233	#	#	20MM	20MM
JW2234	#	#	20MM	20MM
JW2235	#	#	20MM	20MM
JW2236	#	#	20MM	20MM
JW2237	#	#	20MM	20MM
JW2238	#	#	20MM	20MM
R2059	820 :CHIP	#	820 :CHIP	#
R2060	1k :CHIP	#	1k :CHIP	#
R2061	1.8k :CHIP	#	1.8k :CHIP	#
R2062	4.7k :CHIP	#	4.7k :CHIP	#
R2063	10k :CHIP	#	10k :CHIP	#
R2231	#	#	#	75 :CHIP
R2232	#	#	#	75 :CHIP
R2233	#	#	#	4.7k :CHIP
S2001	TACTILE-SW	#	TACTILE-SW	#
S2002	TACTILE-SW	#	TACTILE-SW	#
S2003	TACTILE-SW	#	TACTILE-SW	#
S2004	TACTILE-SW	#	TACTILE-SW	#
S2005	TACTILE-SW	#	TACTILE-SW	#
S2006	TACTILE-SW	#	TACTILE-SW	#
S2007	TACTILE-SW	#	TACTILE-SW	#

Mark : not mounted
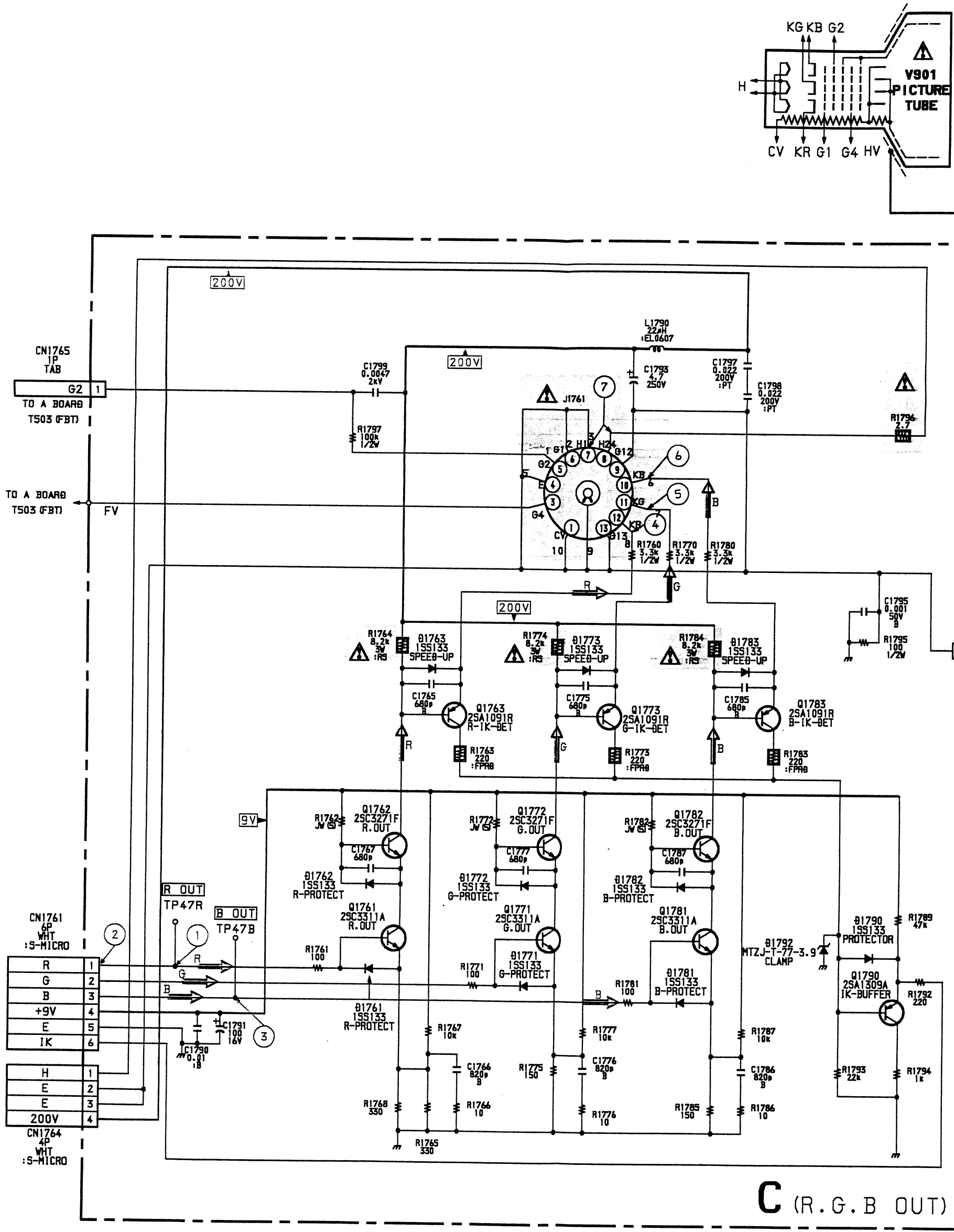
C (R.G.B OUT)

B-SS5530<U/C>-C..

C BOARD TRANSISTOR VOLTAGE LIST

	B	C	E
Q1761	2.2	8.2	1.7
Q1762	8.7	134.1	8.2
Q1763	134.1	2.3	132.0
Q1771	1.8	8.2	1.3
Q1772	8.7	146.4	8.2
Q1773	146.4	2.3	144.1
Q1781	2.1	8.2	1.6
Q1782	8.7	133.7	8.2
Q1783	133.7	2.3	131.5
Q1790	2.2	0.2	2.5

All voltages are in V

• C BOARD WAVEFORMS

① 4.4 Vp-p (H)
② 3.4 Vp-p (H)
③ 3.7 Vp-p (H)
④ 170 Vp-p (H)
⑤ 143 Vp-p (H)
⑥ 153 Vp-p (H)
⑦ 23.2 Vp-p (H)

V901 PICTURE TUBE

KG KB G2

V901
PICTURE
TUBE

KR G1 G4 HV

R1796
2.7

(CHASSIS)

R1795
100
1/2W

C1795
0.001
50V
B

CN1766
1P

1 E

TAB (CONTACT)

Q1783
2SA1091R
B-IK-BET

1783
220
FPR0

Q1790
1SS133
PROTECTOR

7-3.9

Q1790
2SA1309A
IK-BUFFER

R1789
47K

R1792
220

R1793
22k

R1794
1k

C [R.G.B OUT]

(R.G.B OUT)

B-SS5530<U/C>-C..

170 Vp-p (H)

AC IN

AC WHT 1
AC 2

CN602
2P
:AC

F601
6.3A
125V

C605
0.22
125V
:AC

T602
:LFT

R603
*

C603
1000p
250V
:E

JW605
*

C617
1000p
250V
:E

C626
*

T601
:LFT

R623
*

R605 C606
390k 560
200V

JW601
*

JW602
*

R606 C607
390k 560
200V

CN601
3P
WHT
:MINI

DGC

DGC 1
N.C. 2
DGC 3

THP601
*

RY601

Q602
B4SB60L-F
AC-RECT

Q601
1SS119
PROTECT

R642
3.3k

Q644
2SC3311A
DGC-5W

R641
3.3k

T605
:PIT

VDR601
430NR10B

C615
0.039
630V
:PP

R622
10
1/2W
:RF

R607
0.1
1/2W
:RF

Q601
2SC4834
CONVERTER

FB601
1.1UH

C613
0.001
500V
:C

C614
0.001
500V
:C

FB602
1.1UH

Q602
2SC4834
CONVERTER

G [POWER SUPPLY]

– C BOARD –

BLUE GREEN RED

SONY

– G BOARD –

HOT

F601
6.3A
125V

V901
PICTURE
TUBE

HV

R1796
2.7

(CHASSIS)

C1795
0.001
50V
B

R1795
100
1/2W

CN1766
1P

1　E

TAB (CONTACT)

Q1790
1SS133
ROTECTOR

Q1790
SA1309A
<-BUFFER

R1789
47k

R1792
220

1793
22k

R1794
1k

C
[R.G.B OUT]

B OUT)

B-SS5530<U/C>-C..

AC WHT　1
AC　　　2

AC IN

CN602
2P
:AC

F601
6.3A
125V

C605
0.22
125V
:AC

T602
:LFT

R603
*

C603
1000p
250V
:E

T601
:LFT

JW605
*

C617
1000p
250V
:E

C626
*

R623

R605
390k

C406
560
200V

JW601

JW602

R606
390k

C607
560
200V

Q602
B45B60L-F
AC-RECT

CN601
3P
WHT
:MINI

DGC　1

N.C.　2

DGC　3

DGC

THP601
*

RY601

Q601
1SS119
PROTECT

Q644
2SC3311A
DGC-5W

R642
3.3k

R641
3.3k

T605
:PIT

5

6

7

8

4

9

3

10

2

11

1

VBR601
430NR10B

C615
0.039
630V
:PP

R622
10
1/2W
:RF

R607
0.1
1/2W
:RF

Q601
2SC4834
CONVERTER

FB601
1.1UH

C613
0.001
500V
:C

Q603
1SS111
DAMPE

Q607
1SS11
DAMPE

R61
22

C614
0.001
500V
:C

FB602
1.1UH

Q602
2SC4834
CONVERTER

Q604
1SS11
DAMPE

Q609
1SS11
DAMPE

R610
22

– C BOARD –

BLUE　GREEN　RED

SONY

– G BOARD –

G
[POWER SUPPLY]

HOT

F601
6.3A
125V

G (POWER SUPPLY)

B-SS5530<U/C>-G..

G BOARD TRANSISTOR VOLTAGE LIST

	B	C	E
Q601	145.2	294.0	147.5
Q602	-1.7	147.5	GND
Q644	0	10.5	GND

All voltages are in V

G BOAD IC VOLTAGE LIST

	pin	volt
IC641	1	GND
	2	3.9
	3	8.9
	4	8.9
	5	10.5
IC642	IN	9.5
	OUT	5.0
IC643	1	135
	2	NC
	3	2.5
	4	7.8
	5	GND

All voltages are in V

G BOARD * MARK LIST

	EXCEPT KV-29V35C/34V35C	KV-29V35C/34V35C
C602	#	4.7
C626	#	100p 250V
F601	6.3A 125V	6.3A 250V
JW601	5MM	#
JW602	5MM	#
JW605	7.5MM	#
Q645	#	2SA1309A
R603	2.2M 1/2W	8.2M 1W
R623	1 20W :RB	3.9 20W :RB
R659	#	10k
THP601	1-809-539-11	1-809-827-11

Mark : not mounted

Schematic diagrams
← C, G boards

Schematic diagrams
AV, K boards →

TO SC BOARD
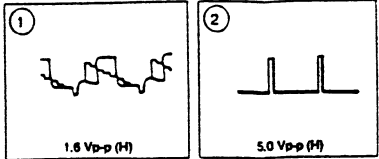CN105

CN102
11P
:BTOB-S

2-DET	E	2-L	2-R	NEW ENA	DAT	CLK	IN-DATA	M-IN1	M-IN2	M-OUT
1	2	3	4	5	6	7	8	9	10	11

(EXCEPT KV-27V20/29V20M)

R1904
10k
:CHIP

STBY 5V

M-IN1

Q1901
2SB709A
SIRCS1

R1905
10k
:CHIP

VIDEO2

Q1902
2SB709A
SIRCS

9V

C102
B:CHIP

R102
:CHIP

R103
:CHIP

R113
:CHIP

Q105
DET BUFF

Q104
CLAMP

R112

C110
B:CHIP

C109
CH:CHIP

R114
:CHIP

C111

R117
:CHIP

C113

L102
:FLR50

Q101
5V REG

R104
:CHIP

Q101
5V-REF.

9V

R115
:CHIP

R116
:CHIP

Q103
CLAMP

TP102

5V

L105

C104

C106

TP105

30V

R101
:CHIP

TP101

C101

TP103

TP104

C108

9V

M-OUT

9V

DET OUT

MUTE

AFT OUT

AF IN

AF OUT

VR-DRIVE

NC

NC

DET OUT

9V

I.F OUT

REF 490

ENABLE

DATA

CLOCK

5V

TRV

12V

TU101

Q103
ANT SW1

R106
:CHIP

STBY 5V

L103

R107
:CHIP

Q104
ANT SW2

R108
:CHIP

R105

STBY 5V

M-OUT

L104

R109
:CHIP

AV (SUB TUNER, D/A CONV.)

9V	ANTSW1	E	ANTSW2
4	3	2	1

CN103
:S-MICRO

TO ANT.SW

M-BUS POW	IN-DATA	RMCN	SIRCS	E	SCL	SDA	STBY 5V	CLK	DAT	2ENA	9V	ANT-SW1	ANT-SW2	E	2H.SYNC	2-AFT	2-MUTE	E	30V
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

CN101
20P
:BTOB-S

TO A BOARD
CN1101

• AV

(9V)

R1910 10k :CHIP

R1935 0 :CHIP

STBY 5V

R1904 10k :CHIP

R1911 10k :CHIP

R1922 560 :CHIP

Q1911 2SB601A SIRCS3

R1931 :CHIP

Q1914 2SB709A SIRCS5

R1934 100k :CHIP

IC1901 CXA1315M-T4 D/A CONV.

C1904 0.01 :CHIP   C1905 10

9V

R2912 4.7k :CHIP

M-IN1

Q1901 2SB709A SIRCS1

Q1906 2SB709A SIRCS2

R1928 470 :CHIP   R1929 47k :CHIP   R1932 10k :CHIP

SW1 — M-IN2   NCC
SW0 — M-IN1   SCL
    — BAC4   SBA
    — BAC3   A2
    — BAC2   A1
    — BAC1   A0
    — M-OUT   SW3
GND — GND   SW2

R2914 10k :CHIP   R2913 10 :CHIP

R2904 220 :CHIP
R2905 220 :CHIP

R1915 10k :CHIP

Q1912 2SB601A SIRCS4

R1930 10k :CHIP

R1905 10k :CHIP

R1916 10k :CHIP

R1923 560 :CHIP

VIDEO2

Q1902 2SB709A SIRCS

Q1908 2SB709A SIRCS

R2909 10k :CHIP

R2910 10k :CHIP

M-OUT

M-IN1

M-IN2

R2906 220 :CHIP

STBY 5V

R1940 4.7k :CHIP

STBY 5V

Q1916 2SB601A BUFF

Q1917 2SB601A BUFF

R2903 4.7k :CHIP   R2907 4.7k :CHIP

C1903 :CHIP

R2908 10k :CHIP   R2916 10k :CHIP   R2917 10k :CHIP

C1906 0.01 B:CHIP

C1907 10

C1902

OUT2   OUT3
OUT1   OUT4
       GND
IN1−   IN4+
IN1+   IN4−
IN2−   IN3+
IN2+   IN3−

R2901 22k :CHIP

R1936 22k :CHIP

R1937 10k :CHIP

R2918 10k :CHIP

R2911 3.3k :CHIP

IC1902 NJM2901M AMP

STBY 5V

C1908 0.001

C1909 0.001

IC1903 NJM2129M SIRCS-I/0

M-OUT

R105 (D)AF

(EXCEPT KV-27V20/29V20M)

B-SS5530<U/C>-AV.

2-ANT
2-MUTE
E
30V

CN101 20P :BTOB-S

AV BOARD WAVEFORMS

① 1.6 Vp-p (H)

② 5.0 Vp-p (H)

AV BOARD TRANSISTOR VOLTAGE LIST

	B	C	E
Q101	5.8	8.7	5.1
Q103	4.3	4.9	5.0
Q104	5.0	0	5.0
Q105	5.0	0.8	5.0
Q1901	5.0	0	0
Q1902	5.0	0	0
Q1906	5.0	0	0
Q1908	5.0	0	0
Q1911	0	5.0	0
Q1912	0.7	0	GND
Q1914	4.9	0	5.0
Q1916	0.2	5.0	0
Q1917	0.2	5.0	0

All voltages are in V

(EXCEPT KV-27V20/29V20M)

B-SS5530<U/C>-AV.

AV BOARD TRANSISTOR VOLTAGE LIST

	B	C	E
Q101	5.8	8.7	5.1
Q103	4.3	4.9	5.0
Q104	5.0	0	5.0
Q105	5.0	0.8	5.0
Q1901	5.0	0	0
Q1902	5.0	0	0
Q1906	5.0	0	0
Q1908	5.0	0	0
Q1911	0	5.0	0
Q1912	0.7	0	GND
Q1914	4.9	0	5.0
Q1916	0.2	5.0	0
Q1917	0.2	5.0	0

All voltages are in V

• AV BOARD WAVEFORMS

① 1.6 Vp-p (H)

② 5.0 Vp-p (H)

(KV-27V35/29V35C/29V75M/32V35/34V35C ONLY)

K (AUDIO AMP)

IC1461 TDA2009A AUDIO-AMP

(Schematic: K board Audio Amplifier circuit with IC1461 TDA2009A, connectors CN1461 7P WHT :S-MICRO TO A BOARD, CN461, CN1462 4P WHT :S-MICR to SPEAKER (R) and SPEAKER (L). Components include C1462 2.2, C1465 47 25V, C1467 2.2, C1469 0.47 :MPS, C1464 220, C1466 220, R1478 1.2k :FPR0, R1472 1.2k :FPR0, R1464 510 :RN-CP, R1467 27 :CHIP, R1465 27 :CHIP, R1468 510 :RN-CP, R1469 27 :CHIP, R1471 27 :CHIP, C1470 0.22 :MPS, C1471 0.22 :MPS, R1477 2.2 :FPR0, R1479 2.2 :FPR0, C1474 2200 25V, C1475 2200 25V, C1472 2200 25V, C1473 2200 25V, R1480 2.2k, R1482 2.2k, R1481 2.2k, R1483 2.2k, R1473 470, R1463 33k, Q1462 2SB709A MUTE, R1474 100k, R1461 4.7k :CHIP, R1475 12k, R1476 12k, Q1461 1SS133 SP-MUTE, R1462 47k :CHIP, Q1461 2SB601A MUTE, C1463 2.2, C1476 2200 25V, PS1461. Signal labels: AUDIO L, AUDIO R, AUDIO +B.)

CN461 pins:
E	1
R	2
E	3
L	4
AUDIO +B	5
AUDIO +B	6
MUTE	7

CN1462 4P WHT :S-MICR:
1	R+	SPEAKER (R)
2	R-	
3	L-	SPEAKER (L)
4	L+	

(KV-27V35/29V35C/29V75M/32V35/34V35C ONLY)

B-SS5530<U/C>-K..
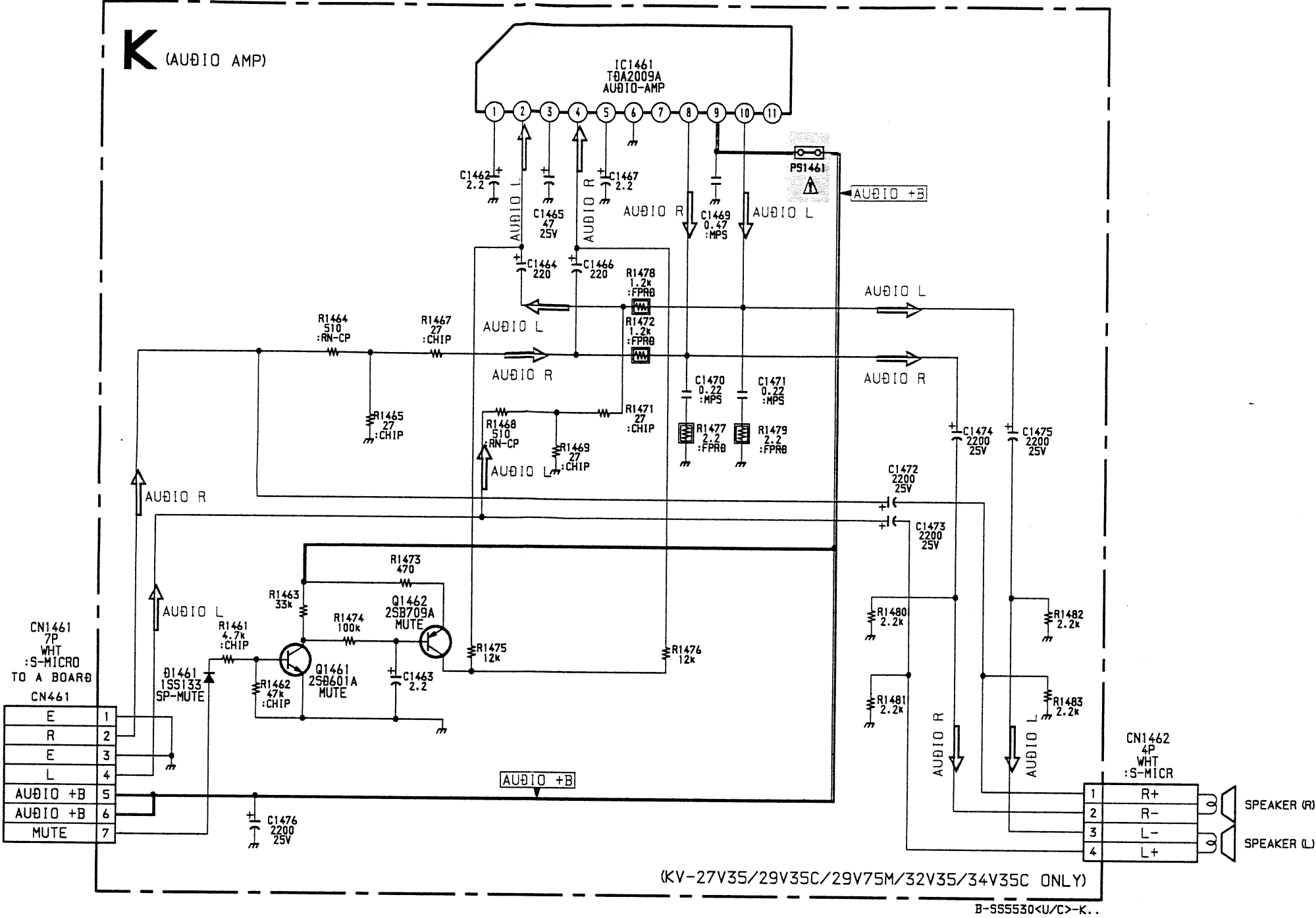
AV BOARD * MARK LIST

	KV-27V35/29V35C/29V75M/32V35/34V35C	KV-27V25/29V65M/32V25
C101	1	#
C102	0.0022 B:CHIP	#
C104	10	#
C106	47 25V	#
C108	100 16V	#
C109	220p CH:CHIP	#
C110	0.047 B:CHIP	#
C111	1	#
C113	220 16V	#
CN103	4P BLK :S-MICRO	#
D101	MTZJ-T-77-5.6C	#
D103	1SS133	#
D104	1SS133	#
L102	10µH :FLR50	#
L103	JW (5)	#
L104	JW (5)	#
L105	100µH :FLR50	#
Q101	2SC3311A	#
Q103	2SB709A	#
Q104	2SB709A	#
Q105	2SB709A	#
R101	4.7k :CHIP	#
R102	27k :CHIP	#
R103	39k :CHIP	#
R104	680 :CHIP	#
R106	22k :CHIP	#
R107	22k :CHIP	#
R108	22k :CHIP	#
R109	22k :CHIP	#
R112	2.2k	#
R113	100k :CHIP	#
R114	1M :CHIP	#
R115	10k :CHIP	#
R116	10k :CHIP	#
R117	4.7k :CHIP	#
U101	BTF-LA402	#

Mark : not mounted

K BOARD IC VOLTAGE LIST

	pin	volt
IC1461	1	1.5
	2	4.2
	3	12.2
	4	4.2
	5	1.5
	6	GND
	7	NC
	8	0.2
	9	22.1
	10	0.2
	11	NC

All voltages are in V

K BOARD TRANSISTOR VOLTAGE LIST

	B	C	E
Q1461	0.7	0	GND
Q1462	20.0	20.7	20.7

All voltages are in V

AV BOARD IC VOLTAGE LIST

	pin	volt		pin	volt
IC1901	1	0.2		7	0
	2	0.2		8	1.3
	3	NC		9	0
	4	NC		10	GND
	5	NC		11	GND
	6	NC		12	GND
	7	0.4		13	GND
	8	GND		14	0.2
	9	NC	IC1903	1	GND
	10	NC		2	GND
	11	8.7		3	NC
	12	GND		4	5.0
	13	GND		5	NC
	14	4.9		6	0.2
	15	5.0		7	5.0
	16	8.7		8	0.4
IC1902	1	0.2		9	NC
	2	0.2		10	0.4
	3	5.0		11	0
	4	1.3		12	0
	5	0		13	5.0
	6	1.3		14	NC

All voltages are in V

AV BOARD IC1902 NJM2901M

Pin	Signal	Pin	Signal
1	OUTPUT 2	14	OUTPUT 3
2	OUTPUT 1	13	OUTPUT4
3	V+	12	GND
4	INPUT 1-	11	INPUT 4+
5	INPUT 1+	10	INPUT 4-
6	INPUT 2-	9	INPUT 3+
7	INPUT 2+	8	INPUT 3-

AV BOARD IC1901 CXA1315M

(Block diagram: LEVEL CONVERSION, LATCH, I²C DECODER, POWER ON RESET, REG, DAC, AMP blocks. Pins SDA 14, SCL 15, Vcc 16, GND.)

K BOARD IC1461 TDA2009A

(Block diagram: L IN, R IN, NC inputs with amplifier stages. Pins 1–14.)

-67-

-68-

AV [SUB TUNER, D/A CONV.]　　K [AUDIO AMP]
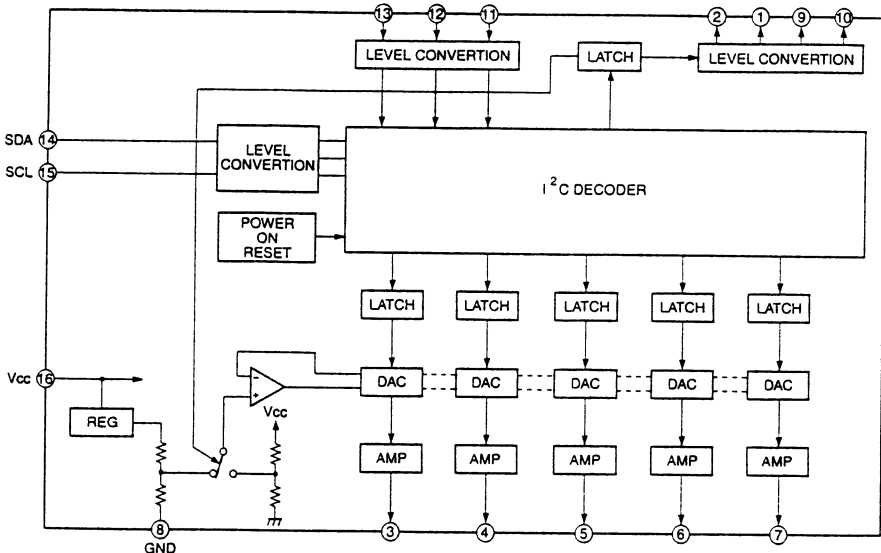
– AV BOARD – (EXCEPT KV-27V20/29V20M)

SONY

1-659-745-11
171156411

– K BOARD –
(KV-27V35/29V35C/29V75M/32V35/34V35C ONLY)

SONY

1-659-754-11
171156411
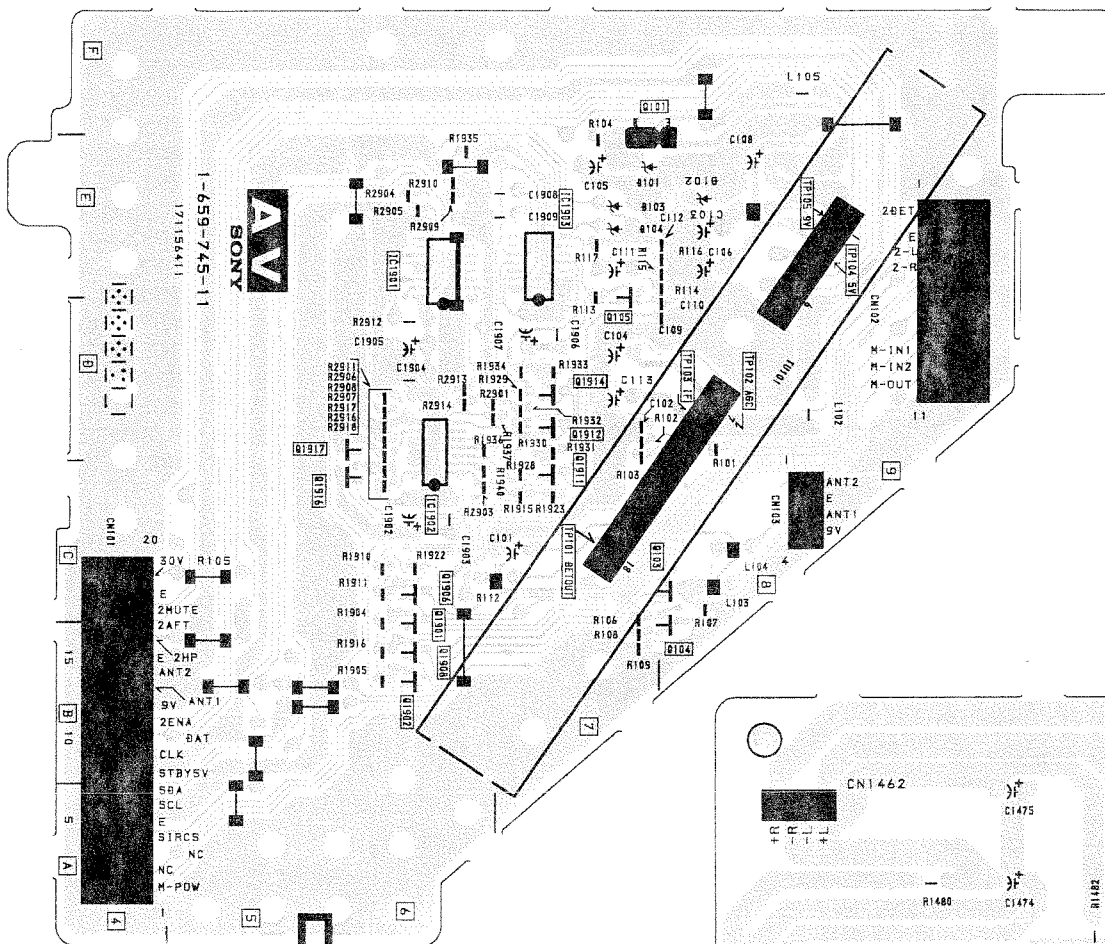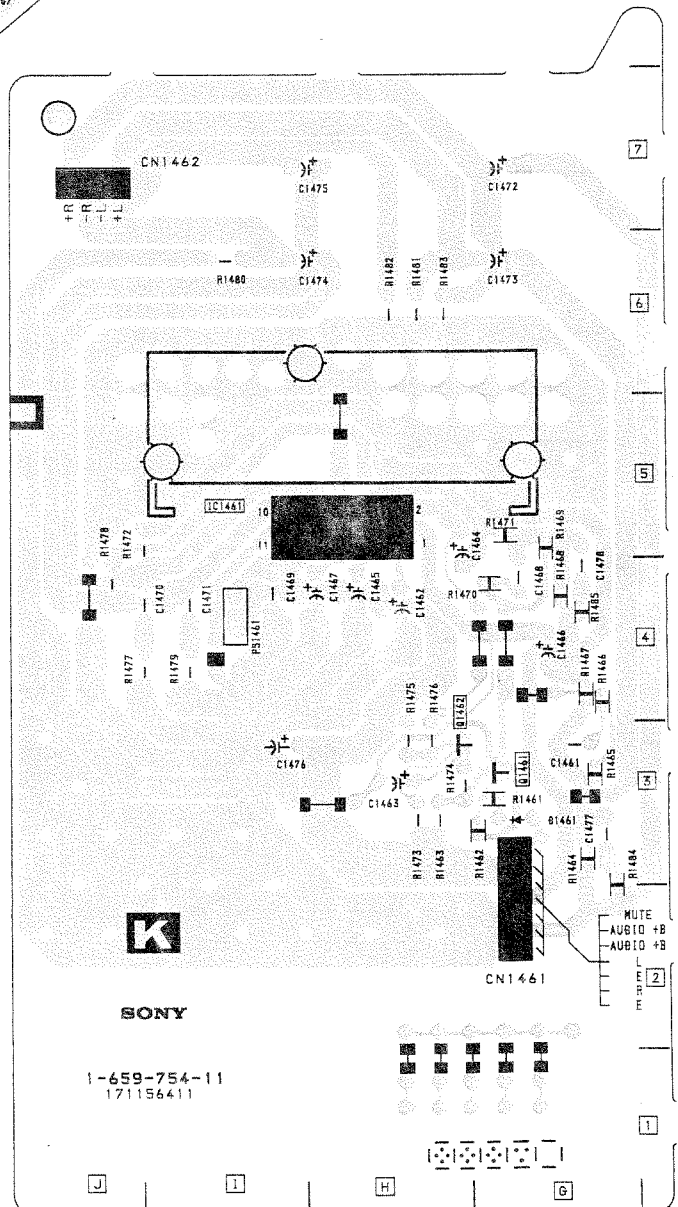
4-4. SEMICONDUCTORS

BH3856FS–E2

MARKING SIDE VIEW

32pin SIP

CD4052BCN

TOP VIEW
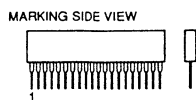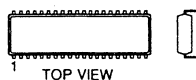
16pin DIP

CXA1315M

TOP VIEW
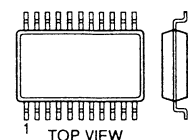
16pin SOP

CXA2025S

TOP VIEW

48pin DIP

CXP85640–005S

TOP VIEW

64pin DIP

DM–58

MARKING SIDE VIEW
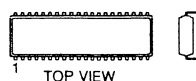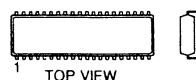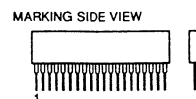
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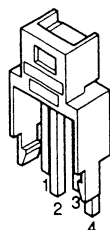
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NJM2902M–TE2

TOP VIEW

14pin SOP

MM1313AD

TOP VIEW
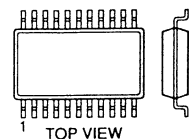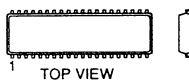
42pin DIP

NJM2129M–TE2

MARKING SIDE VIEW
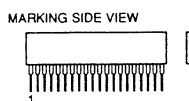
14pin SIP

NJM2903M
NJM2904M
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UPC4558G2

TOP VIEW
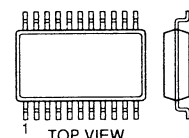
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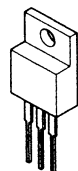
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TOP VIEW
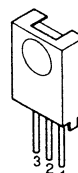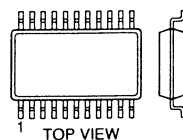
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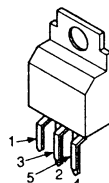
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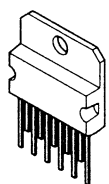
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TOP VIEW
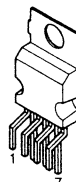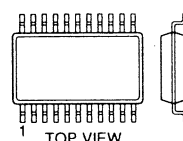
24pin SOP

2SA1037AK–T146–R
2SA1162–G
2SA1330–06
2SC1623–L5L6
2SD601A–Q

C
B
E

2SA1091–0

E C B
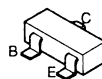
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2SC2785–HFE

LETTER SIDE

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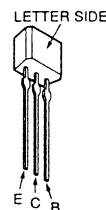
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2SC4793

B C E

2SC2611

LETTER SIDE

E C B

2SC4834M

B C E

2SC4927–01

D1 G1 S1 NC S2 G2 D2

2SD774–34

E C B

D10SC4M

1 2 3
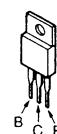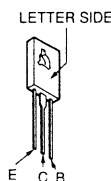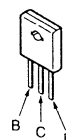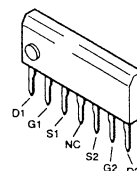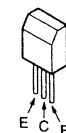
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MTZJ–3.3
MTZJ–33A
MTZJ–6.2B
MTZJ–7.5B
RD10ESB2
RD3.3ES–B2
RD3.9ES–B2
RD33ESB1
RD39ES–B2
RD4.3ES–B3
RD5.6ESB2
RD5.6ESB3
RD6.2ESB2
RD7.5ESB2
1SS119–25
1SS133T–77

CATHODE

ANODE
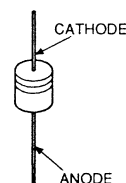
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EL1Z
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GP08D
MTZJ–T–77–3.9
MTZJ–T–77–4.3C

CATHODE

ANODE

D4SB60L
RBA–1004B

ERC06–15S

CATHODE

ANODE

ERD29–08J

CATHODE

ANODE